THE WORLD

STEREOSCOPE.

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THE WORLD

IN THE

STEREOSCOPE:

A SERIES OF SKETCHES,

Original and Selected,

INCLUDING

Descriptions of Famous Mountains, Glaciers, Volcanoes, Valleys, Plains and Deserts, Rivers, Water-falls, Springs and Lakes, with Cities, Palaces, Castles and Forts, Temples and Churches, Monuments, Ruins, &c., &c., with notices of Climate, Races and Architecture.

WRITTEN AND COMPILED TO ACCOMPANY SETS OF

STEREOSCOPIC ILLUSTRATIONS,

FOR THE USE OF SCHOOLS.

SECOND EDITION.

PUBLISHED BY

HART & ANDERSON

NEW YORK.

1872.

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NOTE.—A large number of authors have been consulted and used in the preparation of many of these sketches, whom it is impossible to name in the table of contents. The aim has been to bring together illustrative matter upon the stereoscopic views, not to form complete or original articles. Most of the sketches are purposely made brief to afford time to examine the views in recitation. Some subjects are taken up again in different parts of the book to afford reviews of the illustrations from different points of view.

INTRODUCTION.

This book, with the illustrative apparatus accompanying it, aims to secure a new educational advantage by introducing into the school-room the systematic use of one of our most important and popular inventions. It is not intended to displace other school studies, but to increase their interest and usefulness. The book contains a large number of geographical descriptions which increase the interest in that study, especially as they are accompanied with picturesque and accurate views of the places described. The volume includes sketches of some of the most famous scenes of history, explaining photographs which, of themselves, would be attractive; thus it can readily be used to create more vivid ideas of historical places and events; yet it is not a mere dry chronicle of names and dates. Though it is not a mere school reader, perhaps its most profitable use will be found in the reading classes. Competent teachers will appreciate the difficulty of teaching pupils to read naturally and correctly those selections which are read merely for the sake of *reading*. It is a great gain to have the scholar interested in what he reads. The heavy, lifeless pronunciation of each word separately, without natural inflection, emphasis or connection, can be met best by arousing a new interest in the passage, thus making it something more than a mere collection of sentences to be pronounced correctly. This interest can not be more easily and fully awakened than by putting before the eye the very scenes, the actual places described in the reading lesson. Successful teachers attempt to do this by verbal descriptions, by question and answer and remark. But it can be done much better by letting the scholar examine the actual appearance of every place described in his lesson. This is what these selections, with their accompanying stereoscopic views, afford the teacher an opportunity of doing. If our system had no other excellencies, it would amply reward attention in this single

department of instruction in reading, which involves perhaps more real difficulty than any other in the school-room. There is hardly any one branch that parents and teachers value more highly than that by which their children and pupils may be made natural, correct, easy and interesting readers. And no one thing is a greater aid in the labor of making them such than a series of fresh and lively reading lessons, which have the added advantage of being accompanied with illustrations mirrored from the very scenes they describe, by the unerring pencil of the sunlight itself.

But this system of bringing into our schools well-selected stereoscopic views, with a volume explaining them, has other advantages. It wonderfully enlarges the scope of the pupils' knowledge of the world we live in. The stereoscopic views seemingly bring the scholars into the very presence of the objects represented, as no ordinary flat and imperfect pictures can. A picture must be imperfect; it cannot give accurately and minutely the wonderful variety of nature. Two equally good artists, working from the same point of view, will bring in two unlike pictures of the same scene. But the photograph mirrors every object, every line and shade and shape, with perfect accuracy, and the stereoscope gives the scene its natural depth and perspective. Now all teachers of ability well understand the difficulty of describing outward objects of distant places so that the young mind can get any really correct ideas from their words. They naturally introduce outward objects to make their explanations clear. A pupil may be told that the earth is round and believe it; but he will understand it far better by being shown a geographical globe. A class may be instructed in the relative size of the planets and their motions about the sun; and they may learn and recite correctly the statements of the book. But no competent instructor needs to be informed of the pleased surprise, increased interest, and far more correct conceptions they will derive from the sight of an orrery in operation. It would be possible to communicate a certain amount of knowledge of botany by the use of the text-book alone; but that knowledge is greatly increased, and cleared, and fixed in memory by the actual sight and examination of real plants and flowers. Such facts as these are recognized and acted upon by the most efficient teachers. The words of the text-book, with verbal

explanations, are not relied upon as the sole means of communicating knowledge and arousing interest. Object-teaching in its different forms is a feature of instruction in the best schools. When the objects themselves cannot be presented, pictures of them are frequently used. These pictures, though often inadequate and imperfect, are found to do valuable service. And they are constantly being increased in geographies, histories, readers, dictionaries, books of reference, and all the text-books where it is possible to introduce them. But the photograph is superior to any other picture, and the stereoscope adds wonderfully to the value of the photograph. Already a few of our leading teachers, alive to the immense advantage of accurate representations of the objects they wish to describe, have brought into the school-room their private photographic collections; and, in one or two instances, photography has been summoned to make its contribution to the school apparatus. This enterprise and foresight have been amply rewarded by the increased interest and more rapid advancement of the pupils who have had these aids. Now what these few leading teachers have done partially and privately, with the chance photographs they could happen upon in their own neighborhood, we desire to do systematically and thoroughly.

We believe that, under a good teacher, a great deal of profitable knowledge can be gained from the full and carefully collected sets of stereoscopic illustrations which are accompanied by this manual. The teacher's ordinary labors are not increased by the task of searching out explanations and descriptions from various sources, a work which would often have to be performed during scanty intervals of time and with insufficient libraries at hand. These are all furnished in this single volume, which represents long, careful, and laborious effort to bring together the best materials in the best form for the purpose.

Our plan has been to make such a selection of views, and furnish such descriptions of them as can be used in connection with other school studies as well as independently. We have imposed upon ourselves the primary duty of avoiding the usual track of information in school geographies, histories, readers, and books of reference. But, on the other hand, we have desired so to connect these illustrations and explanations

with other studies as to supplement them and increase their interest and usefulness.

The accumulation of objects which lie within such a plan as this is immense, and the task of selecting has been proportionately difficult. A vast multitude of interesting objects must be left unmentioned. It would be comparatively easy to add an explanatory catalogue to the illustrations, or to gather into a volume a large number of geographical and historical facts connected in a mere general way with these particular views. But it was thought essential that such a manual should actually *describe* scenes and places shown in the views. A book consisting of a mere aggregation of names and facts geographically arranged would, in fact, not explain any illustrations at all. On the other hand, a mere catalogue of the views, numbered and described in detail, could not be used practically in the school-room. The present series of sketches, independent of one another, written or selected to explain the views, embracing a large amount of geographical and historical information, yet possessed of independent interest, and arranged for use as a separate study, or in the reading classes, seemed to meet all the requirements of the case. To give variety to the descriptions, and especially to the exercises, when the volume is used in the reading classes, a large number of poetical selections, descriptive generally of the same scenes, have been introduced in the appropriate connections.

For some time the idea was entertained of attempting to illustrate a single country or group of countries with some degree of thoroughness; but its realization was found to be impracticable, and it was reluctantly abandoned. Plans were also formed of making a general geographical distribution of the illustrations, and also of forming the selection according to a scientific method of classifying into objects of nature and art with appropriate subdivisions. Hundreds of pages were written and printed on these methods, but, at last, they had to be given up on account of practical obstacles to common school use which need not be detailed here. At length, after extended consultation with leading teachers, and a thorough examination of the whole matter, the present system has been adopted.

Great care has been taken to make this compilation accurate, full, and

trustworthy. The accompanying sets of stereoscopic views, which are all prepared and published expressly for this work, have been deliberately selected from over ten thousand subjects. They are gathered at large expense from all parts of the world—from South America, Africa, and Asia, as well as in Europe and the United States. Persons who have had no experience in making such a collection have little idea of the difficulty of securing good stereoscopic views in such countries as India, Japan, Egypt, and Mexico. These views are prepared in the highest style of photographic art; and the stereoscopes are manufactured accurately and scientifically. No intelligent teacher needs to be informed that a large majority of the views on sale are "stereoscopic" only in name, and yield only confused and imperfect results in place of the clear and solid pictures, in true perspective, which ought to be attained.

PRACTICAL SUGGESTIONS TO TEACHERS.

1. These illustrations, with a proper use by the teacher of the accompanying manual, can be made quite as interesting and profitable for the youngest scholars as for those who are older. One of the earliest points to which a good teacher directs his efforts is that of training his pupils to *observe*. The eye is but the instrument of the mind; and it is surprising to notice how soon and how thoroughly the mind can be brought into the habit of careful and close observation.

Show one of these stereoscopic illustrations. Tell the pupils to find out and remember everything they can in the illustration. They may be formed into a "stereoscopic class," or not, at the discretion of the teacher. When the class is called, let each one tell all he can about the picture. One will observe and remember five points, another eight, another more. It will often be found that each one has seen *something* which no one of the others had noticed. Usually the teacher can add several particulars to all the points mentioned by the class. Sometimes several things can be brought out by questioning. The first lesson with young pupils should not be carried too far. But little time need be taken by the recitation. Then another illustration can be given out; and the next day more points will be brought out. Questions for information

will be asked by the pupils, affording opportunity for other explanations. The faculties of observation and memory are trained, and great interest excited, even among scholars too young to read. The illustrations should be shown one by one; and the pupils should not be permitted to turn the views over carelessly, at will, until they have become familiar with them all. After a few days, comparison can easily be made of features in the different pictures already examined, and their resemblances and differences noted. Of course, with the youngest pupils, the book will be used by the teacher only, and explanations will be made orally, not by reference to the explanatory sections of the manual. We desire to emphasize the use of stereoscopic illustrations for the youngest scholars, because it is often found the best preparation for inciting interest in some of their other studies, as they advance to them. The boy who has already studied a scene in the streets of Paris till the name is fixed in his mind, will be much more likely to remember and be interested in all geographical or historical information about the city, than another to whom the name "Paris" is but an empty word on the pages of the school text-book.

2. With older classes, the manual can be used by the pupil personally. The earlier lessons ought to include full explanations of the stereoscope and the photograph.

Afterward, the teacher can take up those exercises in the book which seem best suited to the pupils. It is not at all necessary that the order of sections should be followed in course. If the classes are also pursuing geography, those illustrations which represent scenes in the countries they are studying about, may be used in the order in which they come up for geographical description. The same plan can be pursued with scholars in history. A full alphabetical index is added to the book, so that all its descriptions of scenes in any single country or city can readily be found.

3. A great many of the illustrations can be studied by classes. For example, the teacher may take up a series of lessons on "Mountains," embracing every mountain view in the collection. Then another series can be taken on "Water-Falls," another on "Churches and Temples," another on "Ruins," another on "Great Cities," &c. In this way, it is sur-

prising how much interest will be awakened and how rapidly information is gained concerning different classes of objects.

4. The book can be used to give an agreeable variety in training the reading classes, with the advantages mentioned above. Many of the sections will be found peculiarly well adapted for use as reading exercises. It will also often happen that the ordinary school readers present selections which these stereoscopic views vividly illustrate.

5. In some schools this apparatus will be found to furnish a pleasing means of rewarding industry among those pupils not directly concerned in its use. Where this is advisable, care should be taken not to give access to the illustrations too frequently or freely; and a full opportunity should be afforded for learning about the views from the manual and other sources of information. A general and miscellaneous use by the school of the illustrations should *never* be permitted. The stereoscope should always be kept in the possession of the teacher, and used with care and caution.

The plan of forming the four hundred illustrations into four separate series, exchangeable among neighboring schools, offers great advantages in each of these methods of using the book, and especially in review courses of study and reading. It increases the general profit and usefulness of the system four-fold without additional cost.

I.—HISTORY AND EXPLANATION OF THE STEREOSCOPE AND THE PHOTOGRAPH.

THE STEREOSCOPE.—ITS PRINCIPLES.—ITS INVENTION AND HISTORY.—WHEATSTONE, ELLIOT, AND BREWSTER.—THE DIFFICULTY.—PHOTOGRAPHY.—TALBOT AND DAGUERRE.—METHODS.—APPLICATIONS IN SCIENCE, ART, AND EDUCATION.

Before entering upon the general descriptions of the world of nature and of man, which this volume is intended to outline, it may be useful to give a sketch of the inventions and discoveries by which so many distant objects of art and nature can be so accurately mirrored for the uses of the school-room. Successful educators have always been prompt to seize on every new invention, and press it into the service of instruction. The art of printing gave a valuable impulse to popular teaching, and removed many of its greatest difficulties. Maps and engravings found their place and use in the work. Globes, geometrical solids, orreries, &c., have all been brought into service. Lately, some of our most successful instructors have taken advantage of the wide scope of instruction and illustration which is opened by

THE STEREOSCOPE.

Within a single generation, this interesting instrument has gained a world-wide reputation, not only in the fields of popular recreation and instruction, but also in the realms of science and art. The name "stereoscope" (derived from two Greek words, "*stereos*," solid, and "*scopein*," to see) shows the most remarkable feature of the instrument,

that of combining into a single image two plane pictures, seen separately by each eye, and giving to the image the apparent depth and solidity of nature itself.

The principles on which it acts have long been known. One of them was mentioned by Euclid two thousand years ago, and the other was described in a work published at Naples in 1593. We condense from various sources the following explanation of the principles and history of the stereoscope, together with a brief outline of the art by which it has been made available for general use. The chief principle on which this instrument depends is, that a solid object shows a slightly different image to each of the two eyes, and its appearance of solidity is due to the combination of these two images. If a school slate or a thin book be held upright before the eyes, with the back or edge toward the face, and looked at with the right eye only, the back and much of the right side are seen, and the eyesight is directed not straight forward, but inward in a line from the book to the right eye. If now the right eye be closed, and the object looked at by the left eye only, the edge and *left* side are seen, and the whole object seems to lie slightly toward the closed eye. It will be noticed that the object offers a slightly different shape to each eye.

The second principle is, that these slightly unlike flat pictures of the same object, when united in the act of seeing with the *two* eyes, become one image, which has the appearance of the solid object itself. Therefore, any two such pictures, seen by each eye at the same instant, and united by any method, will appear in relief as a single solid object, the seeming situation of which is between the two images seen separately by each eye. If the back of the upright book mentioned above be carefully looked at with both eyes, its apparent place is between the two former images seen by the eyes separately. Only the right or the left side was then seen; now both sides are beheld, and the whole object stands out before the vision in distinct relief.

This relief and apparent solidity are produced by the use of *both* eyes, forming a single image which combines the two images seen by each eye separately. This is true of all solid objects, near or distant. The right eye sees more of the right side of every solid object than the left eye does; and the left eye sees more of the left side of the same object than the right eye. In common vision, these right and left eye pictures are united into one.

Now, when the object seen is a flat surface, the parts of which are nearly at the same distance, the two eyes see it so nearly alike that there is no such combination of their images as when solids or objects at different distances are looked upon. Hence the flat object, like a painting or engraving, is seen as a plane surface. Any notion of depth in such a picture is by a mere act of imagination. The depth or relief is not *seen* at all; and the imagination acts more or less feebly in different persons, in some hardly at all. Such persons behold in an engraving or painting a mere flat surface, shaded or colored, but without the depth of apparent solidity. To others, the notion of depth and solidity, the apparent varying distance of the different objects in the picture, is much more vivid. Now, the stereoscope is that invention by which separate flat pictures of the same object can be seen with the same appearance of solidity which the object itself has. Shape, distance, and perspective no longer have to be imagined or guessed at; they are *seen*. It is an ingenious application of the method of nature itself in manifesting the forms and distances of visible objects.

HISTORY OF THE STEREOSCOPE.

In 1838, Professor Wheatstone, of England, first showed to the Royal Society of London his "reflecting stereoscope." By combining mirrors, he contrived that two drawings on separate slips should be so reflected to the eyes that the images seemed to come from a single object placed between

the mirrors. Thus the two views, carefully drawn, one as seen by the right eye, and the other as seen by the left eye, would seem a solid form in space. The figures which Mr. Wheatstone drew for his instrument were pairs of cubes, pyramids, and cones. But he could not secure pictures of natural objects as seen by each eye, exact enough to blend in the common image. The instrument was known only to his personal and scientific friends, and excited no public interest, giving no promise of general usefulness. In 1839, Prof. Elliot, of Liverpool, who had for several years been studying into the uses and relations of the *two* eyes in seeing, made a simple stereoscope, without mirrors or lenses, which consisted of a wooden box six inches long, at the end of which were placed two sketches of a leaning cross, with the moon and the stem of a small tree nearly in line. These pictures were united, and appeared in relief by directing the eyes to a central point beyond the pictures. Here was the stereoscope in its main features. But Prof. Elliot also found it impossible to obtain right and left eye pictures of landscapes, buildings, or figures which were drawn with sufficient truth to be accurately combined. This prevented his proceeding further with his invention, and hindered its use, except to illustrate some principles of optics among scientific men.

In 1859, Sir David Brewster noticed the imperfections of Wheatstone's instrument, and contrived the more convenient form now in general use, which is called the "lenticular stereoscope." In this, two convex lenses, or commonly, two parts of a single lense, are employed. The thin edges of the lense are set together, the centers of the glasses used being about two and a half inches apart. A thin partition stands out from the inner edges of the semi-lenses, so that each eye shall see only the picture directly before it. Mirrors are not needed. If the double views are opaque, they are seen by ordinary reflected light; if they are on glass, the light is transmitted through them.

But the difficulty of securing pairs of accurate pictures still remained. No artist could make views sufficiently true to nature and minute in execution, yet possessing these delicate but exact differences which are found in the vision of the two eyes. And slight errors in the pictures were found to be exaggerated by the stereoscope, and spoiled the result. As long as the views were confined to single and simple objects, by great care a stereoscopic effect could be produced, though often imperfectly. But no extensive landscape, large buildings, groups of persons or animals, could be drawn to secure a perfect effect, even at the cost of great pains and expense. The stereoscope seemed destined to be only a curious toy, or a costly optical instrument for the scientific. But, as in the case of the printing press, and the manufacture of linen paper, an ally was found, in combination with which the instrument was to become famous in name, and invaluable in use.

PHOTOGRAPHY: ITS HISTORY, METHODS AND APPLICATIONS.

In 1839, the very year in which Professor Elliot made his simple stereoscope, the French government granted to M. Daguerre an annual pension of 6,000 francs on account of an ingenious invention by which he could make exact pictures of natural objects without the aid of artist's pencil or brush, by means of the sunlight itself. On January 30, 1839, six months before Daguerre published his process, Mr. H. F. Talbot, of England, explained a similar discovery of his own to the Royal Society, and, a little later, published the process of making paper so sensitive to the light, by the use of nitrate of silver, that it would receive images of visible objects; and afterward fixing the images by applying common salt. Mr. Talbot followed this with similar discoveries, which were added to by many others. For some time, only artificial views and interiors could be pictured; but Dr. Draper, of New York, made a very valuable improvement by which portraits from life could be taken. In 1850,

Mr. E. Scott Archer, of England, introduced the collodion process, the easy and practical method now in universal use, which we will briefly describe.

A clean glass plate is coated with a chemical solution. A delicate film adheres to the glass. The plate is then immersed in another solution, enclosed in a frame to protect it from the light, and placed in the camera, the lenses of which have been previously adjusted to the object to be taken. An invisible image is formed on the glass by exposure to the light. This image is developed and fixed by flowing the plate with different chemical solutions; and, after receiving a coat of some proper varnish which will not soften in the sunlight, the negative, as it is called, is ready for printing. This is accomplished by placing prepared paper beneath the plate, and exposing it for a certain time in the sunlight. The rays of light, passing through those parts of the glass which are transparent, blacken the sensitive paper. Those rays which strike the dark portions of the glass are absorbed, leaving the paper beneath white; and this process is carried all through the delicate intermediate shades. An absolutely perfect transcript of the picture on the glass is thus secured, except that the lights and shades are transposed. The paper is then taken from under the negative, and subjected to several other processes before the picture can be retouched and mounted.

We cannot fully recount the numberless applications of this beautiful art of photography. Its usefulness in art and science can hardly be overrated. The engineer, the architect, the inventor, and the artist, employ it largely. The astronomer with its aid delineates the forms of the heavenly bodies by their own light. All forms of human and animal life, or of inanimate existence, can be accurately and permanently pictured. The geologist has secured exact representations of formations which defied the best efforts of his pencil; and the botanist has made imperishable record of the delicate and beautiful vegetable forms, which rise only

to fade and die. Changes of weather, variations of the earth's magnetism, are made to record themselves. We hardly need mention the immense advantage gained to the social affections by this art, in the easy multiplication of accurate portraits of families and friends. The poorest home can now be made happy by the possession of pictures superior in fidelity to those which were once the exclusive property of great wealth. In place of the old, costly, imperfect, slow processes, of portraying face and form by the use of pencil and brush, often in unskillful hands, always with a certain degree of change by the artist's idealizing appearances which he wished to imitate, we have the exact reflection of the sitter's form and features, as in a mirror, a portrait which is absolute truth, and which can be copied repeatedly with perfect fidelity—and all this at the trifling expense of time and money which places it within universal reach. More than this, by means of the instantaneous process, perfect pictures can be taken of momentary actions, attitudes and expressions of a busy crowd in a city street, the mobile face of a restless child, or the changeful play of nature.

This art also multiplies true pictures of the world's famous historic places, its celebrated structures, its sublimest and loveliest natural scenery, its varieties of race and costume, thus preserving and popularizing some of the finest results of travel, without its fatigue and expense. All things of interest, which the eye can look upon, mountains, lakes, cities, ruins, deserts, temples, palaces, statues, noted books, famous faces, great inventions, antique inscriptions, even the gloomy grandeur of caverns far under ground, are brought accurately before us in home or school by this wonderful art of photography. Its power is already recognized in the popular diffusion of knowledge, once limited to very few minds. Its usefulness for purposes of education has begun to attract general attention; and its future expansion is likely to be as great as its rapid development and progress hitherto.

STEREOSCOPIC PHOTOGRAPHY.

It will be seen that the art of photography supplied for the stereoscope the one thing needed to complete its popular usefulness. The difficulty of taking right and left eye pictures with perfect accuracy was entirely removed. The objects were made to picture themselves, with the exact resemblances and differences of appearance which they present to the eyes. The illusion of the stereoscope, acting upon the perfect truth of the photograph, gives a beautiful and striking effect of solidity and relief to the pictures. Portraits, landscapes, buildings, statues, seem no longer plane assemblages of lines, lights, and shades, on flat surfaces. They come out in depth and relief; we look among and beyond them, as solid objects, just as we would in nature itself. In order to secure this important and beautiful result, the stereoscopic photographs are made by a camera constructed with a pair of lenses purposely. If the pictures are taken by a single camera, the instrument must be set in two positions successively to get true right and left eye pictures. In order to give the proper relief, the centers of the lenses should be placed two and a half inches apart, the average distance between the centres of two eyes. The distances seem unnaturally drawn out in the stereoscopic view if the angle at which its pictures are taken is greater than that of natural vision. Very few artists employ the proper angle, some using six or eight inches, or even ten or twenty. The result is, that millions of stereoscopic photographs are circulated which have no real artistic value. Streets are seen twice as long as in nature, buildings are enormously increased in depth; in portraits, the head seems protruded from the neck, and the nearer parts of the figure stand out from the others unnaturally. Sometimes, on the other hand, no change whatever of the position of the camera is made. The same picture is printed for each eye. The result is, a loss of the true stereoscopic effect, as

well as injury of the vision in the effort to produce this effect. Great care should be taken in the selection of views; for a great number of the pictures published are stereoscopic in name only.

It is the *combination*, therefore, of the invention of the stereoscope with the art of photography which has given us a new educational advantage in the attainment of more extensive and accurate knowledge of distant countries, cities, and all visible objects, than was possible before. The mind is trained by the introduction into the school-room of results, once secured only after long travel and at great expense. A more correct conception of visible nature in different parts of the earth, and of the products of human skill and labor is imparted, than was formerly attainable through the imperfect method of verbal descriptions. Every school can be made to include a valuable gallery of whatever is most useful and interesting in the visible world. The stereoscope, once a costly toy of science, afterward an instrument of popular entertainment, thus becomes a valuable means of education, an important adjunct to the most useful studies.

II.—THE YOSEMITE VALLEY.

The wonderful Yosemite Valley is nearly in the center of California, north and south, and just midway between the east and west base of the Sierra, here a little over seventy miles wide. The Valley is nearly level, about six miles in length, and from half a mile to a mile in width, sunk almost a mile in depth below the general level of the neighboring region. It may be roughly likened to a gigantic trough hollowed in the mountains. This trough is quite irregular, until we arrive near its upper end, when it turns sharply, at right angles almost, and soon divides into three branches, through either of which we may, going up a series of gigantic steps, as it were, ascend to the general level of the Sierra. Down each of these branches descend streams, forks of the Mercede River, coming down the steps in a series of stupendous waterfalls. The principal features of the Yosemite, and those by which it is distinguished from all other known valleys, are: first, the steepness of its walls; second, their great height; and finally, the very small amount of fragments at the base of these gigantic cliffs. Besides these, there are many other striking peculiarities, and features both of sublimity and beauty, which can hardly be surpassed, if equalled, by those of any mountain valleys in the world. Some of these may be briefly mentioned.

Among its grand mountain domes is El Capitan, an immense block of granite, projecting squarely out into the Valley, and presenting an almost upright sharp edge, 3,300 feet high. The sides or walls of the mass are bare, smooth, and entirely without vegetation. It is almost impossible for the observer to comprehend the enormous size of this

rock, which in clear weather can be distinctly seen at a distance of fifty or sixty miles. Nothing, however, so helps one to realize the greatness of these masses about the Yosemite as climbing around and among them. El Capitan imposes on us by its stupendous bulk, which seems as if hewn from the mountains on purpose to stand as the type of eternal massiveness. It is doubtful if anywhere in the world there is presented so squarely cut, so lofty, and so imposing a face of rock.

At the angle where the Yosemite branches, we have the dome-shaped mass called the North Dome. This rounded mass of granite rises to an elevation of 3,568 feet above the Valley. Such dome-shaped masses are somewhat peculiar to granitic regions, but are nowhere developed on so grand a scale as in the Sierras. On the left hand or north side of the river is a massive rock, solitary and nearly perpendicular on all sides, rising perhaps 2,000 feet above its base, and little inferior in grandeur to the North Dome. This has borne, at different times, a great variety of names; but is best known, at present, as the "Cap of Liberty." It has been climbed, and has on its summit, according to Mr. Hutchings' statement, a juniper tree of great diameter.

The Half Dome (South Dome) is the loftiest and most imposing mass of those considered as part of the Yosemite. It is a crest of granite rising to the height of 4,737 feet above the Valley, perfectly inaccessible, being probably the only one of all the prominent points about the Yosemite which never has been, and never will be trodden by human foot. On one side it is absolutely upright for 2,000 feet or more from the summit, and then falls off with a very steep slope to the bottom of the gorge. On the opposite face the Half Dome is not absolutely vertical; it has a rounded top and grows more and more steep at the bottom. This mountain has not the massiveness of El Capitan, but is more astonishing, and probably there are few visitors to the Valley who would not give it the first place among all the won-

ders of a region which is rapidly becoming famous and drawing crowds of visitors from all parts of the world.

A very prominent object, in going up the Yosemite Valley, is the triple group of rocks known as the Three Brothers. These rise in steps one behind the other, the highest being 3,830 feet above the Valley. From its summit there is a superb view of the Valley and its surroundings. The peculiar outline of these rocks, as seen from below, resembling three frogs sitting with their heads turned in one direction, is supposed to have suggested the Indian name Pompompasus, which means, we are informed, "Leaping Frog Rocks."

Nearly opposite the Three Brothers is a point of rocks projecting into the Valley, the termination of which is a slender mass of granite, having something the shape of an obelisk, and called, from its peculiar position, or from its resemblance to a gigantic watch-tower, the "Sentinel Rock." The obelisk form of the Sentinel continues down for a thousand feet or more from its summit; below that it is united with the wall of the Valley. Its entire height above the river at its base is 3,043 feet. Further up the cañon of the Tenaya is a beautiful little lake called "Mirror Lake," an expansion of the Tenaya Fork. It is frequently visited for the purpose of getting the reflection from its unruffled surface of a noble overhanging mass of rock, to which the name of Mount Watkins has been given as a compliment to the photographer who has done so much to attract attention to this region. Still further up the Tenaya Fork, on the right hand side, is "Cloud's Rest," the somewhat fanciful designation of a long, bare, steep and elevated granite ridge, which connects the valley with the high Sierra. This point is perhaps a thousand feet higher than the Half-Dome, or nearly 10,000 feet above the sea level.

This whole general region abounds in strange and curious forms of rock, mountain-side, and valley. Among them is a natural curiosity which has been discovered on the line

of the Union Pacific Railroad. It is a cut or cleft in the earth, with sides as perpendicular as if fashioned by man, and a smooth bottom running at an equal grade from the top of a lofty hill to the Weber river at its foot. The country round is desolate and uninhabited, and there is positively nothing to indicate the presence of a human agency. This is one of the strangest works of Nature in the Western States, and is appropriately termed the "Devil's Slide."

III.—ROME: THE LATERAN AND THE VATICAN.

The city of Rome, famous in ancient and modern times, is situated in Italy, and near its western coast. Its history is commonly dated back to 753 B. C. At that time Romulus, who gave his name to the city, is said to have become its king and founded the Roman Empire. For the space of about a thousand years Rome was the chief city in the world. With the fall of the Roman Empire, it ceased to be of importance politically and commercially. It has been since then the central seat of the Roman Catholic religion, the Popes having resided there ever since the year 1277. The principal interest centering in the city to-day is in its historic associations, and the vast remains of its former greatness which are strewed around in the shape of buildings, aqueducts, and relics of the fine arts which once flourished to a great degree. The structures which are left to us prove more surely, by their massiveness and symmetry, the power of ancient Rome, than we can learn from the pages of history or from tradition.

Rome is situated on both sides of the river Tiber, which divides it into two unequal parts, the larger being on the eastern bank. There are seven hills in and about the city, which have always been identified with its history.

It was Cicero who said that Rome was well adapted for human habitation, from the healthiness of its situation in the midst of an unhealthy country. This is true at the present day, some parts of the city being remarkably free from the malaria infesting the neighborhood. It is probable that partly on this account and partly from its strength as a tract of rocky hills in the midst of a large plain, that the spot was first settled.

The streets of modern Rome are narrow and unattractive, and there is only one, the Corso, which possesses a sidewalk. The Corso is the principal street, and is about a mile in length. It divides the town into two parts, the upper and more aristocratic part, and the poorer district. The Rome of to-day is, excepting the ruins and a few prominent buildings, an entirely different city from the Rome of the 16th century. It has been rebuilt several times, and each time has it departed more from the original beauty of the world's mistress.

Among the most interesting religious structures in the city is the church of St. John Lateran, which has a historic interest of its own. It was founded in the fourth century by the Emperor Constantine, and called by the Romans "the mother of all the churches in the city and in the world." It has five entrances and is surmounted by twelve great statues. In its cloisters are shown many relics to curiosity hunters, among which may be mentioned the mouth of a well, called the Well of the Woman of Samaria, two columns of Pilate's house, and a column said by tradition to have been split when the vail of the temple was rent in twain.

There is no palace in the world which approaches the Vatican in interest, whether we regard its important place

in the history of the Church, or the influence of its museums on the learning and taste of Christendom for nearly 300 years. It is an immense pile of buildings, irregular in shape, and built at different times, without a due regard to the general harmony of the whole. It was first made the residence of the Popes in the year 1377. Since then every successive papal ruler has vied with his predecessor in making it the largest and most beautiful palace of the Christian world.

The space that the buildings occupy is immense; its length is said to be 1,151 feet, and its breadth 767 feet. The number of its halls, chambers, galleries, etc., almost exceeds belief. It has 8 grand staircases, 200 smaller staircases, 20 courts, and 4,422 rooms.

The Vatican Library contains the choicest collection of works, in book and manuscript form, that there is in the world. It was founded over 400 years ago by Nicholas V., and at his death contained 9,000 volumes. The present building, in which the library is situated, was erected in 1588, and at present contains over 50,000 manuscripts and printed books. The Great Hall, which forms the chief body of the library, is divided into two portions and is decorated with historic frescoes. From this we enter the immense double gallery.

Attached to its columns and walls are the painted cabinets and presses which contain the books; these are shut with close doors, so that a stranger might walk through the entire suite of apartments, and have no suspicion that he is surrounded by the first literary treasures of the world. Nothing meets the eye but bright frescoes and Etruscan vases, and the effect which might be produced by the appearance of the books is entirely lost. The galleries contain the presses with the manuscripts. In a museum of Christian antiquities, are different instruments of torture by which many of the early Christians suffered martyrdom. Since Victor Emmanuel made Rome the capital of united

Italy, in the latter part of 1871, the Vatican palace has become the sole remaining center of Papal rule. It is occupied by the aged Pope, who has guaranteed to him the right of supreme jurisdiction over it. The city, under the new adminstration of its government, is likely to have increased political importance.

IV.—RESTORATION OF THE WORKS OF ART TO ITALY.

Land of departed fame! whose classic plains
Have proudly echoed to immortal strains;
Whose hallowed soul hath given the great and brave—
Day-stars of life—a birth-place and a grave;
Home of the Arts! where glory's faded smile
Sheds lingering light o'er many a mouldering pile;
Proud wreck of vanished power, of splendor fled,
Majestic temple of the mighty dead!
Whose grandeur, yet contending with decay,
Gleams through the twilight of thy glorious day;
Though dimmed thy brightness, riveted thy chain,
Yet, fallen Italy! rejoice again!

Awake, ye muses of Etrurian shades,
Or sacred Tivoli's romantic glades;
Wake, ye that slumber in the bowery gloom;
Where the wild ivy shadows Virgil's tomb;
If yet by classic streams ye fondly rove,
Haunting the myrtle vale, the laurel grove;
Oh! rouse once more the daring soul of song,
Seize with bold hand the harp, forgot so long,
And hail with wonted pride, those marks revered;
Hallowed by time, by absence more endeared.

Ye, at whose voice fair Art, with eagle glance,
Burst in full splendor from from her death-like trance;
Whose rallying call bade slumbering nations wake,
And daring Intellect his bondage break;
Beneath whose eye the lords of song arose,
And snatched the Tuscan lyre from long repose,

And bade its pealing energies resound,
With power electric, through the realms around,
O, high in thought, magnificent in soul!
Born to inspire, enlighten and control!
O, rise and view your glorious reign once more,
The shrine where nations mingle to adore!

There, thou fair offspring of immortal Mind!
Love's radiant goddess, idol of mankind!
Once the bright object of Devotion's vow,
Shalt claim from taste a kindred homage now.
Oh! who can tell what beams of heavenly light,
Flashed o'er the sculptor's intellectual sight;
How many a glimpse revealed to him alone,
Made brighter beings, nobler worlds his own,
Ere, like some vision sent the earth to bless,
Burst into life thy pomp of loveliness!

Young Genius there, while dwells his kindling eye
On forms, instinct with bright divinity,—
While new-born powers, dilating in his heart,
Embrace the full magnificence of Art;
From scenes by Raphael's gifted hand arrayed,
From dreams of Heaven by Angels portrayed;
From each fair work of Grecian skill sublime,
Sealed with perfection, "sanctified by time,"
Shall catch a kindred glow, and proudly feel
His spirit burn with emulative zeal;
Buoyant with loftier hopes, his soul shall rise,
Imbued at once with nobler energies;
O'er life's dim scenes on rapid pinions soar,
And worlds of visionary grace explore;
Till his bold hand give glory's day-dream birth,
And with new wonders charm admiring earth.

Venice exult! and o'er thy moonlight seas,
Swell with gay strains each Adriatic breeze!
What though long fled those years of martial fame,
That shed romantic lustre o'er thy name;
Though quenched the spirit of thine ancient race,
And power and freedom scarce have left a trace
Yet still shall Art her splendors round thee cast,
And gild the wreck of years forever past.

And thou, whose Eagle's towering plume unfurled,
Once cast its shadows o'er a vassal world,
Eternal City! round whose curule throne,
The lords of nations knelt in ages flown;
Those whose Augustan years have left to time
Immortal records of their glorious prime;
When deathless bards, thine olive shades among,
Swelled the high raptures of heroic song;
Fair, fallen Empress! raise thy languid head
From the cold altars of th' illustrious dead,
And once again, with fond delight, survey,
The proud memorials of thy noblest day.

Lo! where thy sons, O Rome! a godlike train,
In imaged majesty return again!
Bards, chieftains, monarchs, tower with mien august,
O'er scenes that shrine their venerable dust;
Those forms, those features, luminous with soul,
Still o'er thy children seem to claim control;
With awful grace arrest the pilgrim's glance,
Bind his rapt soul in elevating trance,
And bid the past, to fancy's ardent eyes,
From time's dim sepulcher in glory rise.

Souls of the lofty! whose undying names,
Rouse the young bosom still to noblest aims;
Oh! with your images could fate restore
Your own high spirit to your sons once more,
Patriots and heroes! could those flames return,
That bade your hearts with freedom's ardor burn,
Then, from the sacred ashes of the first,
Might a new Rome in Phenix grandeur burst!
With one bright glance dispel th' horizon's gloom;
With one loud call, make Empire from the tomb;
Bind round her brows her own triumphal crown,
Lift her dread Ægis with majestic frown,
Unchain her Eagle's wing, and guide his flight,
To bathe his plumage in the fount of light.

V.—ÆTNA, AND THE ERUPTION OF 1865.

One of the most famous mountains is the central volcano of Ætna, in the northeastern part of Sicily. It is an active volcano, and we have the account of its tremendously violent eruptions both in ancient and modern times. The country about the mighty base of Ætna is everywhere covered with lava, and the mountain sides are furrowed with its broad black currents. The lower region of the mountain presents a scene of fertility and loveliness; its middle belt consists of vast, deep forests and ample, grassy glades; while the upper region is a wild and dreary waste, covered with rocks and ashes, buried during several months of the year under the snow.

There are eighty craters on the flanks of the mountain. On the eastern side lies a deep valley, between four and five miles in diameter, with ridges of hard lava encrusted into its wall, which rises from 1,000 to 3,000 feet high. The aspect of the summit is terrible. One can reach the very brink of the crater and look down into its awful depths, to survey its chaos of black rocks, fragments of lava and sulphur, the lava boiling and seething below like oil in a gigantic caldron. The blue, green and white lava, stained here and there with broad patches of black or streaks of bloody red, contrasts strongly with the livid color of the rocks around.

The last great eruption of Ætna is one of the most magnificent examples which can be brought forward of volcanic eruptions. The explosion had been heralded by signs for some long time. In the month of July, 1863, after a series of convulsive movements of the soil, the loftiest cone of the volcano opened on the side which faces

the south. After this explosion, the mountain never became completely calm; numerous cracks, which opened on the outer slopes of the crater, continued to smoke, and the hot vapor never ceased to jet out from the summit in thick eddies.

Often, indeed, during the night, the reflection of the lava boiling up the central cavity lighted up the atmosphere with a fiery red. The liquid, being unable to rise to the mouth of the crater, pressed against the outer walls of the volcano, and sought to find a vent through the weakest point of the crust by melting gradually the rocks that opposed its passage. Finally, in January, 1865, the wall of the crater yielded to the pressure of the lava; some roaring was heard; slight agitations affected the whole eastern part of Sicily, and the ground was rent open for the length of a mile and a half to the north of one of the secondary cones which rise on the slope of Ætna, and the pent-up lava violently broke through to the surface.

Soon after the commencement of the eruption, the two upper craters, standing close together on a single cone, vomited nothing but lumps of stone and ashes, while jets of liquid lava were emitted by the lower craters, which were arranged in a semicircle round a sort of funnel-shaped cavity. The cone, on a lower part of the fissure, was not in a constant state of eruption, and rested after each effort as if to take breath.

A crash like that of thunder was the forerunner of the explosion; clouds of vapor, rolling in thick folds, gray with ashes and furrowed with stones, darted out from the mouth of the volcano, darkening the atmosphere, and throwing off their projectiles several hundred yards round the hillock. Then, after having discharged their burdens, the dark clouds giving way before the pressure of the winds, mingled far and wide with the mists on the horizon. The lower cones, which rose immediately over the lava source, continued to rumble and to discharge molten matter.

The vapor which escaped from the seething well of lava crowded in dark contortions round the mouth of the craters. Some of it was red or yellow, owing to the reflection of the red-hot matter, and some was variously shaded by the trains of fragments thrown out with it; but it was impossible to follow them with the eye, so rapid was their flight. A tumult of harsh sounds burst forth; they were like the noises of saws, whistles, and of hammers falling on an anvil. Sometimes one might have fancied it like the roaring of waves breaking upon the rocks during a storm, if the sudden explosions had not added their thunder to all this uproar of the elements.

One felt dismayed, as if before some living being, at the sight of these groups of hillocks, roaring and smoking, and increasing in size every hour, by the matter which they vomited forth from the interior of the earth. The volcano, however, then commenced to rest. On the 2d of February, the principal current, the breadth of which varied from 300 to 500 yards, with an average thickness of 49 feet, reached the upper ledge of Colla-Vecchia, three miles from the fissure of eruption, and plunged like a cataract into the gorge below.

It was a magnificent spectacle, especially during the night, to see this sheet of molten matter, dazzling red like liquid iron, making its way in a thin layer from the heaps of brown ashes which had gradually accumulated above; then carrying with it the more solid lumps, which dashed one against the other with a metallic noise, it fell over into the ravine, only to rebound in stars of fire. But this splendid spectacle lasted only for a few days: the fiery fall, by losing in height, diminished gradually in beauty. In front of the cataract, and under the jet itself, there was formed an incessantly increasing slope of lava, which ultimately filled up the ravine, and, indeed, prolonged the slope of the valley above. From the reservoir, which was more than 160 feet deep, the stream continued to flow to the east, filling up to the brink the winding gorge of a dried-up rivulet.

By the middle of the month of February, the fiery stream, already more than six miles long, made but very slow progress, and the still liquid lava found it difficult to clear an outlet through the crust of stones cooled by their contact with the atmosphere; when, all of a sudden, a breaking out took place at the side of the stream, at a point some distance up, not far from the source. Then a fresh branch of the burning river, flowing toward the plains, swallowed up thousands of trees which had been felled by the woodmen. This second inundation of lava did not, however, last long.

A number of farm-houses were swept away; vast tracts of pasturage and cultivated ground were covered by slowly hardening rock, and a wide band of forest, comprising, from 100,000 to 130,000 trees, was completely destroyed. When seen from the lower part of the mountain, all these burning trunks borne along upon the lava, as if upon a river of fire, singularly contributed to the beauty of the spectacle. During the earliest period of the eruption, whilst the villagers of Ætna looked at it with stupor, and were bitterly lamenting over the destruction of their forests, hundreds of curious spectators, brought daily by the steamboats, from Catania and Messina, came to enjoy at their ease the contemplation of the splendid horrors of the conflagration.

The aspect of the current of lava, as it appeared covered with its envelope of ashes, was scarcely less remarkable than the sight of the matter in motion. Its black or reddish aspect was all roughened with sharp edges which resembled steps, pyramids, or twisted columns, on which it was a difficult matter to venture, except at the risk of tearing the feet and hands. Some months after the commencement of the eruption, the onward motion of the interior of the molten stone which, by breaking the outer crust in every direction, had given it this rugged outline, was still visibly taking place. Here and there cracks in the rock allowed a

view, as if through an air-hole, of the red and liquid lava swelling up as it flowed gently along.

A metallic clinking sound was incessantly heard, proceeding from the fall of the rocks, which were breaking under the pressure of the liquid matter. Sometimes, on the hardening current of lava, a kind of blister gradually rose, which either opened gently, or, bursting with a crash, gave vent to the molten mass which formed it. Round the very mouths of the volcano, a vast glade was formed in the forest; the ground was covered everywhere with ashes, which the wind had blown up into hillocks, like the dunes on the sea-coast. The nearest trees that we met with, at unequal distances from the mouths of eruption, had had their branches torn off by the falling lumps of stone, or were buried in ashes. A spectator might have walked among a number of yellow branches which were once the tops of lofty pines.

And yet this last eruption, one of the most important in our epoch, is insignificant in the history of the mountain; it was but a mere pulsation of Ætna. During the last twenty centuries only, more than seventy-five eruptions have taken place, and in some of them the flows of lava have been more than twelve miles in length, and have covered areas of more than forty square miles, which were once in a perfect state of cultivation, and dotted over with towns and villages. In former ages, thousands of other lava-flows and cones of ashes have gradually raised and lengthened the slopes of the mountain.

The mass of Mount Ætna, the total bulk of which is three or four thousand times greater than the most considerable of the rivers of stone vomited from its bosom, is, in fact, from its summit to its base, down even to the lowest submarine depths, nothing but the product of successive eruptions throwing out the molten matter of the interior. The volcano itself has slowly raised the walls of its crater, and then extended its long slopes down to the waters of the

Ionian Sea. By its fresh beds of lava and ashes, incessantly renewed, one upon the other, it has ultimately reared its summit into the regions of snow, and has become the great "pillar of heaven."

VI.—FAMOUS EUROPEAN CHURCHES.

Among the most imposing and costly structures of the world, are buildings for religious worship, churches and temples. Some of the finest of these buildings in Europe are the four great churches or cathedrals of Strasbourg, Cologne, Notre Dame, in Paris, and St. Mark's, in Venice, brief descriptions of which have been gathered below.

The Minster of Strasbourg is considered to have been, before its injuries in the Franco-Prussian War of 1870, one of the finest Gothic buildings in Europe. Its spire was, probably, the loftiest in the world, reaching the height of 466 feet, 16 feet above the present top of the great pyramid. The front of the church is of imposing magnitude, its massive walls being relieved by small pillars and innumerable statues, all wrought to great perfection. These statues now blackened by the centuries that have passed over them, have a stern appearance; many of them are of gigantic size. The tower, supporting the spire, consists of strong buttresses adorned with small columns and statues, and having very high and large windows which take nearly the whole breadth of the four sides. Winding stairs rise to the base of the spire, from which the visitor climbs to

a massive spot called "the lantern," commanding a magnificent view of the city, the castles, mountains, and numerous villages around.

The interior is lighted by magnificent painted windows, and supported by 14 large pillars. Over the principal porch is a beautiful sculptured round window, back of which is a glass gallery. On the left side of the nave stands the organ, a master-piece of work. The pulpit is a work of delicate sculpture adorned with fifty little statues.

This Cathedral has long been noted for its wonderful astronomical clock, which was begun in 1352. It has lately been rebuilt, and is a beautiful piece of mechanism. This clock indicates the movements of the heavenly bodies, their eclipses, &c., and presents figures of Christ, the apostles, childhood, youth, manhood, old age, striking the quarters and the hours, and also gives the ecclesiastical days. It is impossible to describe its elaborate machinery.

Tradition says that from one hundred to two hundred thousand men were employed in the construction of the Cathedral, which has been repeatedly rebuilt from the time of Clovis, thirteen and a half centuries ago, till 1015, when the present foundation was laid. It has been many times struck with lighting and considerably injured. But it has suffered still more from the violence of war, both in ancient and in recent times.

The Cathedral of Cologne, though begun in 1248, still remains unfinished. The contributions of over a million of dollars have been chiefly employed in repairing dilapidations and preserving what is built from ruin. On the top of the highest tower (not one-third completed) the crane employed to raise building stones has stood for centuries.

This church is one of the purest Gothic monuments of Europe. The two chief towers are to be 500 feet in height, and the entire length of the church will be 511 feet. The choir only is finished, and, from its size, height, and disposition of pillars, arches, chapels, and beautifully colored

windows, resembles within a splendid vision. Externally, its huge flying buttresses, intervening piers, bristling with a forest of pinnacles, strike the beholder with admiration. The church contains monuments to the Archbishops of Cologne, and the celebrated Shrine of The Three Kings, which is richly adorned with gold and precious stones. Those who show the shrine assert (with exaggeration, undoubtedly) that its treasures are worth over a million of dollars. If this great cathedral were completed, it would be at once the most regular and the most stupendous Gothic edifice in the world.

The Cathedral Church of Notre Dame is, perhaps, the most prominent in Paris. This superb building was begun about the year 1000, and completed in a little over 300 years. The building is nearly 400 feet long, and its lofty square towers rise 204 feet. The spires for which these towers were intended have never been built. Behind them there is now a new spire, adorned with statues and surmounted by a gilt cross. The western front is the finest. Three ample portals, divided by square pillars, lead into the church.

The interior is rich with sculptures and paintings, and the arches are adorned with figures of angels and saints. Between the towers is a large rose window of exquisite coloring. The organ is remarkably fine, containing 3,484 pipes. This church has recently undergone extensive repairs; and many of the altars and paintings are not in place. It is a gratifying fact, that in the ravages by fire of the Communist Rebellion, Notre Dame escaped with but few injuries, none of these affecting the outside of the edifice.

The singular but splendid church of St. Mark, at the eastern end of St. Mark's Square, in Venice, is a rich and strange building, which has attracted universal admiration. In its principal front there are set 500 columns of precious marbles, green, purple, orange, some with oriental inscrip-

tions. Over the central vault of the portal stand the celebrated gilt bronze horses, brought anciently from Constantinople. The recesses over the doorways are filled with rich mosaics, and the front is crowded with statuesque figures. Crossing the threshold below, one finds a rich and variegated pavement; around are spread gold-grounded mosaics over roof and wall; while above, spread the resplendent cupolas. Perhaps the best impression to be conveyed in words of this wonderful structure is that given by Ruskin's celebrated description, which is as splendid an achievement in language as the church is in architecture.

"All the great square seems to have opened from it in a kind of awe, that we may see it far away; a multitude of pillars and white domes clustered into a long, low pyramid of colored light; a treasure heap, it seems, partly of gold, and partly of opal and mother-of-pearl, hollowed beneath into five great vaulted porches, ceiled with fair mosaic, and beset with sculpture, of alabaster, clear as amber and delicate as ivory—sculpture, fantastic and involved, of palm leaves and lilies, and grapes and pomegranates, and birds clinging and fluttering among the branches, all twined together into an endless network of buds and plumes; and, in the midst of it, the solemn form of angels, sculptured and robed to the feet, and leaning to each other across the gates, their figures indistinct among the gleaming of the golden ground through the leaves beside them, interrupted and dim, like the morning light as it faded among the branches of Eden, when first its gates were angel-guarded long ago. And round the walls of the porches there are set pillars of variegated stones with interwoven tracery, rooted knots of herbage, and drifting leaves of acanthus and vine, and mystical signs, all beginning and ending in the Cross; and above them, in the broad archivolts, a continuous chain of language and of life—angels, and the signs of heaven, and the labors of men, each in its appointed season upon the earth; and above these, another

range of glittering pinnacles, mixed with white arches, edged with scarlet flowers,—a confusion of delight, amidst which the breasts of the Greek horses are seen blazing in their breadth of golden strength, and the St. Mark's Lion, lifted on a blue field covered with stars, until at last, as it in ecstasy, the crests of the arches break into a marble foam, and toss themselves far into the blue sky in flashes and wreaths of sculptured spray.

"Let us enter the church itself. It is lost in still deeper twilight, to which the eye must be accustomed for some minutes before the form of the building can be traced; and then there opens before us a vast cave, hewn out into the form of a cross, and divided into shadowy isles by many pillars. Round the domes of its roof the light enters only through narrow apertures like large stars; and here and there a ray or two from some far away casement wanders into the darkness, and casts a narrow phosphoric stream upon the waves of marble that heave and fall in a thousand colors along the floor.

"What else there is of light is from torches, or silver lamps, burning ceaselessly in the recesses of the chapels; the roof sheeted with gold, and the polished wall covered with alabaster, give at every curve and angle some feeble gleaming to the flames; and the glories around the heads of the sculptured saints flash upon us as we pass them, and sink into the gloom. Under foot and over head a continual succession of crowded imagery, one picture passing into another, as in a dream; forms beautiful and terrible mixed together, dragons and serpents, and ravening beasts of prey, and graceful birds that, in the midst of them, drink from running fountains, and feed from vases of crystal; the passions and the pleasures of human life symbolized together, and the mystery of its redemption; for the mazes of interwoven lines and changeful pictures lead always at last to the Cross, lifted and carved in every place and upon every stone; sometimes with the serpent

of eternity wrapt around it; sometimes with doves against its arms, and sweet herbage growing forth from its feet; but conspicuous most of all on the great rood that crosses the church before the altar, raised in bright blazonry against the shadow of the apse. It is the cross that is first seen, and always burning in the center of the temple; and the hollow of its roof has the figure of Christ in the utmost height of it, raised in power, or returning in judgment."

VII.—THE FIRST CONQUEST OF MONT BLANC.

Mont Blanc, the monarch of the snowy Alps, is the highest peak of Europe.* For a long time, this lofty fastness was supposed to be inaccessible to man. It was not even known whether the rarefied air at its top could support human life. Saussure, in 1760, imagined its ascent possible, and offered a reward to any of the Swiss mountaineers who would accomplish it. Various daring attempts were made during the next twenty-five years; but none were successful.

The wastes of snow and ice, the immense crevasses, the steep and terrific slopes, the dazzling reflection of the sun's rays, the intense cold, the storms and fatigue, all conspired to make success seem impossible. In 1785, Saussure himself made the attempt; but after great exertions and fatigue, it was found that a fresh fall of snow rendered further progress impossible, and the adventure was given up

*15,739 above the sea level. Mt. Rosa is 15,210.

at an elevation of 11,250 feet. It was reserved for one of the guides of this expedition to succeed in an attempt so often attended with failure.

Pierre Balmat took to himself two other guides, and on the sixth of July, 1786, they went to pass the night in the hut of the Pierre Ronde. They started at daybreak, and ascended to the "Needle," as it is called, and finally to the Dome du Gouter, but not without severe suffering from the rarefaction of the air. It was then believed that this was the only way by which Mont Blanc could be approached; therefore some of the Chamounix guides had divided into two troops, to test the comparative facilities of the different routes leading to the Dome. They were joined by another guide, Jacques Balmat, who for some years had been independently seeking the road to Mont Blanc, and for whom was reserved the glory of first discovering it.

The two groups of guides, having reunited, traversed a vast snow field, and gained the long ridge which connects the Dome du Gouter to Mont Blanc. But this ridge, which strikes between two precipices, each 6,000 feet in height, is so narrow and of so abrupt an ascent, that it proved utterly impracticable to reach Mont Blanc by it. The guides only acknowledged this evident fact with much reluctance. Jacques Balmat, however, persisted in continuing the adventure. He risked his life on the narrow ridge, and to move forward was obliged to place himself on all-fours upon the species of ass's back formed by this terrible escarpment. His companions, frightened at his temerity, abandoned him, and re-descended.

After brave but fruitless efforts, Jacques Balmat was forced to desist from his impossible enterprise. He retraced his steps, still straddling along the ridge, like a child on its grandfather's stick. But he found himself deserted by his companions, who felt no sympathy for him, because he had followed them without their consent. The gallant mountaineer, piqued by their cowardly abandonment, resolved to

remain alone in these frozen wastes and desolate wildernesses until he had discovered a practicable mode of ascending Mont Blanc. He descended to the Grand Plateau, where he resolved to pass the night. The Grand Plateau of Mont Blanc is a slightly inclined plane of about 2,000 square acres, nearly 10,000 feet above the sea; swept by continual avalanches, and exposed to the most biting winds; for it is surrounded on all sides by peaks of snow, where the traveler can find neither rock nor stone to serve as a shelter or resting place. Even during the summer, and in the sun, the thermometer here marks always zero. In this awful desert Jacques Balmat, without covering, having only his mantle and alpen stock, spent the night, crouching under a crag, and but poorly defended against a small, drizzling, frozen snow, which fell incessantly.

At daybreak, he resumed his explorations of the mountain. It was thus that he discovered the proper direction in which to climb the "sovran peak," namely, by following up the valley of snow which stretches from the point now known as the Grands Mulets and ascending from thence to Mont Blanc by a moderately steep acclivity. The bad weather, snow, excessive cold, and want of provisions prevented him from pushing forward to the goal; but, in re-descending the valley, he ascertained the actual course to be pursued in order to gain the summit.

On returning home, he slept for eight-and-forty hours without once awaking. The incessant refraction of the sun's rays upon the snow had so fatigued his sight, that he suffered severely from diseased eyes. A physician named Paccard, who resided in the village, relieved him. In gratitude for his cure, and acknowledgment of his skill, Balmat revealed to him his great discovery, and proposed to him to share the glory of accomplishing the First Ascent of Mont Blanc. Dr. Paccard accepted the proposal joyfully.

On the 8th of August, 1786, the two adventurers commenced their daring expedition. They had only confided

to two persons the secret of their project before carrying it into execution. So they accomplished alone this lengthened and dangerous route. All their stores consisted of a couple of woolen coverlets, in which to wrap themselves at night, under the shelter of a projecting rock. It is difficult to understand how these two men, reduced to their own resources, in the midst of these desolate wastes, these ice-bound deserts, which had never before been trodden by human foot, could reach the goal they had proposed to themselves, in spite of the snows and the precipices, the cold, and the rarefaction of the atmosphere. But it is certain that, after passing the night under a rock on the plateau of the Grands Mulets, they ascended on the following day to the "Monarch of the Mountains."

The inhabitants of Chamounix meanwhile had assembled in crowds, and, by means of their telescopes, could perceive the two heroes on the topmost peak of Mont Blanc—that is, of the loftiest mountain in Europe, which had hitherto been considered utterly inaccessible to man. Jacques Balmat and Paccard remained for half an hour on the horse-shoe ridge, which forms the actual summit. But, owing to the continued refraction and dazzling gleam of the sunlit snows, Paccard, when he regained the valley, was almost blind; while Balmat's face was swollen, his lips were congested with blood, and his eyes were sorely fatigued.

"It is strange," said Paccard to his companion next morning, "I hear the birds sing, and it is not day!"

"That is because you cannot see," replied Balmat; "the sun has risen, but the swelling of your eyelids renders you temporarily blind."

Happily this accident had no fatal consequences. Dr. Paccard died in 1830, at the ripe age of seventy-nine.. As for Jacques Balmat, he perished miserably, in 1834, at the bottom of a precipice. Some vague rumors had induced him to believe that a vein of gold existed on the flank of one of the lofty peaks which shut in the valley of the Sixt

on the northeast, and he started in search of it. But the place indicated proved inaccessible; it was necessary to advance along a narrow cornice, beneath which descended, sheer and somber, into the abyss, a precipice nearly 400 feet in depth. The sight froze his blood with terror. But, sometime afterward, accompanied by a chamois hunter, as rash and as intrepid as himself, he renewed the attempt. He ventured on the narrow cornice—a few steps—and he disappeared in the abyss! His body was never found.

VIII.—ALPINE SCENERY.

Adieu to thee, fair Rhine! how long, delighted,
The stranger fain would linger on his way!
Thine is a scene alike when souls united
Or lonely Contemplation thus might stray;
And could the ceaseless vultures cease to prey
On self-condemning bosoms, it were here,
Where Nature, nor too sombre nor too gay,
Wild, but not rude, awful, yet not austere,
Is to the mellow earth as Autumn to the year.

Adieu to thee again, a vain adieu!
There can be no farewell to scenes like thine;
The mind is colored by thine every hue;
And if reluctantly the eyes resign
Their cherished gaze upon thee, lovely Rhine,
'Tis with the thankful glance of parting praise;
More mighty spots may rise—more glaring shine,
But none unite, in one attaching maze,
The brilliant, fair, and soft—the glories of old days.

But these recede. Above me are the Alps,
The palaces of Nature, whose vast walls
Have pinnacled in clouds their snowy scalps,
And throned eternity in icy halls
Of cold sublimity, where forms and falls
The avalanche—the thunder-bolt of snow!
All that expands the spirit, yet appals,
Gather around these summits, as to show
How Earth may pierce to Heaven, yet leave vain man below.

Clear, placid Leman! thy contrasted lake
With the wide world I've dwelt in is a thing
Which warns me with its stillness to forsake
Earth's troubled waters for a purer spring.
This quiet sail is as a noiseless wing
To waft me from distraction; once I loved
Torn ocean's roar; not thy soft murmuring
Sounds sweet as if a sister's voice reproved
That I with stern delights should e'er have been so moved.

It is the dark of night; and all between
Thy margin and the mountains, dusk yet clear;
Mellowing and mingling, yet distinctly seen,
Save darkened Jura, whose capt heights appear
Precipitously steep; and drawing near,
There breathes a living fragrance from the shore,
Of flowers yet fresh with childhood; on the ear
Drops the light drip of the suspended oar,
Or chirps the grasshopper one good-night carol more.

He is an evening reveller, who makes
His life an infancy, and sings his fill;
At intervals, some bird from out the brakes
Starts into voice a moment, then is still.
There seems a floating whisper on the hill:—
But that is fancy; for the starlight dews
All silently their tears of love distil,
Weeping themselves away till they infuse
Deep into Nature's breast the spirit of her hues.

Ye stars which art the poetry of heaven,
If in your bright leaves we would read the fate
Of men and empires,—'tis to be forgiven
That in our aspiration to be great,

Our destinies o'erleap their mortal state,
And claim a kindred with you; for ye are
A beauty and a mystery, and create
In us such love and reverence from afar,
That fortune, fame, power, life, have named themselves a star.

The sky is changed! and such a change! Oh, Night,
And Storm, and Darkness, ye are wondrous strong,
Yet lovely in your strength, as is the light
Of a dark eye in woman! For along
From peak to peak, the rattling crags among,
Leaps the live thunder!—not from one lone cloud,
But every mountain now hath found a tongue;
And Jura answers through her misty shroud,
Back to the joyous Alps who call to her aloud.

And this is in the night:—most glorious night:
Thou wert not sent for slumber; let me be
A sharer in thy fierce and far delight,—
A portion of the tempest and of thee!
How the lit lake shines—a phosphoric sea—
And the big rain comes dancing to the earth!
And now again 'tis black—and now, the glee
Of the loud hills shakes with its mountain mirth
As if they did rejoice o'er a young earthquake's birth.

Sky, mountains, river, winds, lake, lightnings! ye,
With night and clouds and thunder, and a soul
To make these felt and feeling, well may be
Things that have made me watchful;—the far roll
Of your departing voices is the knoll
Of what in me is sleepless,—if I rest.
But where, of ye, O tempests, is the goal?
Are ye like those within the human breast?
Or do ye find, at length, like eagles, some high nest?

The morn is up again, the dewy morn,
With breath all incense, and with cheek all bloom,
Laughing the clouds away with playful scorn,
And living as if earth contained no tomb,—
And glowing into day, we may resume
The march of our existence; and thus I,
Still on thy shores, fair Leman, may find room,
And food for meditation, nor pass by
Much that may give us pause, if pondered fittingly.

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IX.—CHICAGO BEFORE THE FIRE.

A fire, unrivaled for extent and destruction of property in the annals of history, visited the city of Chicago, October 8th, 1871. Other great conflagrations, like those o London and Moscow, swept away districts but imperfectly built, which subsequent enterprise beautified and adorned; but this fire wiped out the most substantially built and beautifully adorned portion of the city. To comprehend the magnitude of the disaster it is necessary to recur to the earlier history of the city and trace her progress from small beginnings until she attained her late commanding position—the fourth city in population, and the third city in commercial importance, in the United States. The site of Chicago was first visited by Marquette, a Jesuit missionary, in 1672; but there was no regular occupancy of the place until in 1804, when the United States Government established a military post at the mouth of Chicago River, called Fort Dearborn. At the close of the Black Hawk War, in 1832, the country was thrown open to settlement; and emigration soon began to flow in with an uninterrupted tide, which has continued up to the present hour. A hamlet clustered around Fort Dearborn which took the name of Chicago; and in 1839 the first shipment of wheat was sent from this port, which is now the world's great port for breadstuffs and provisions. In 1840 Chicago contained a population of 4,470; in 1860, 109,263; and at the time of the fire, hardly less than 350,000 souls.

Nothing could have been more uninviting than the original site of the city. Ridges of shifting sand bordered the lake shore; while inland, and stretching beyond the range of vision, was morass supporting a rank growth of blue-joint

grass, with here and there a clump of jack oaks. Through this morass wound the sluggish river, only flushed by the spring and fall freshets.

In 1833 a post-office was established, and the mail was brought weekly, on horseback, from Niles, Michigan. In 1837 Chicago became incorporated as a city, and William B. Ogden was chosen as its first mayor. From that time to the present, the history of the growth of the city becomes too complex to be traced, except in a comprehensive form. A series of public improvements was devised which made Chicago one of the pleasantest and healthiest cities in the Union. A system of sewerage was established for underground draining, which required that the original surface in many places be raised eight feet. This change of grade involved the necessity of raising many of the largest structures in those streets adjacent to the river. Such immense buildings as the Tremont and Briggs Houses, the Marine Bank, and in fact entire blocks, were lifted up with little or no interruption of business.

To supply the city with pure water, Lake Michigan was resorted to as an unfailing reservoir. A "crib," 40 feet in height and 98½ feet in diameter, was floated to a site in the Lake, two miles from shore, and there sunk. From this a tunnel was built to the shore. By means of enormous pumps, the water is forced up a tower, 130 feet high, whence its own pressure distributes it to different parts of the city.

The intercourse between the three divisions of the city, up to a recent time, had been effected wholly by swing bridges, which were a serious impediment to navigation, and equally so, by their continuous turning, to vehicles and pedestrians. To obviate this, two tunnels were constructed under the river, one at La Sale and one at Washington streets. It is not surprising that a place built up so rapidly as Chicago should present a somewhat incongruous appearance. The rapid increase of the population required a hasty erection of buildings, and landlord and tenant alike

concurred, the one in erecting, the other in occupying, tenements of the most unsubstantial character. These structures received the very appropriate name of "balloon" houses.

As business increased, and more massive and less inflammable structures were required, these houses were moved to the less populous districts. At the date of the fire there was no city in Christendom which contained such a vast mass of combustible materials. No restrictions had been placed on the erection of two-story wooden buildings in the most valuable portions of the city. The consequence of this was, that while a large part of the South Division was built up with magnificent blocks which, if left to themselves, would escape wholesale destruction by fire, scattered among them were many wooden buildings, which were nothing less than tinder-boxes, requiring but the slightest touch to enable them to flare up and carry destruction to their neighbors.

X.—THE CHICAGO CONFLAGRATION.

The burning of Chicago probably began with the overturning of a lamp in an obscure stable. A combination of circumstances helped on the subsequent horrors. There had been a baking of earth, trees, and dwellings in the dry air of a rainless autumn, until everything had been cooked to a crisp igniting point. There was a fire department, wearied with the labor of subduing a conflagration which, twenty hours before, had been thrown out as a skirmish

line for the mighty hosts of flame that were to follow. Worse than all, a driving gale of wind was surging up from the southwest,—a gale so violent as to threaten disastrous hurricane, and to whip the waters of the lake into the white frenzy of a storm.

Against this combination of evils there was no force at hand strong enough to prevent the destruction of the sheds, dilapidated houses, and shaky structures that comprised the "built up" portion of the city. That the fire must sweep away all the many wooden buildings in that quarter of the town was obvious from the outset; but everybody supposed that the fire department could easily control the flames, after they had exhausted their strength on that class of structures. The drenchings of the engines, however, availed nothing toward checking the progress of destruction. The flames certainly were taking to themselves mightier proportions. In less than one hour the flames had seized upon the planing-mills, furniture shops, and other manufactories, situated a little west of the river. From them it was only a vigorous stride to the elevators in that neighborhood, and before midnight the flames had destroyed more in value than had ever before been sacrificed in the history of the city. The conflagration now hung upon the verge of the last night's work of ruin, and all hoped that here it would rest. Beyond the open space of the old burnt area was the river, and beyond that were the proud edifices of the business heart of Chicago. Here all thought the fire-wraith would bow to circumstances too powerful for its fury.

But this was not to be. Hardly pausing to take breath, the allied terrors of tempest and flame leaped in fell carnival over into the South Division. From this time onward there is but one sad story of destruction. All the grand blocks of stone and marble crumbled away into dust at the breath of the destroyer. Palaces of trade, hotels, halls, theatres and churches alike swelled the volume of flame that

seemed to reach the sky. It not only traveled almost as fast as a man can walk, but it leaped whole blocks, and sent its emissaries before it, on the wings of the wind, in the shape of sparks and burning embers. Following in its track, or rather giving way to its encroachments, the first great pang of sorrow came to the despairing spectators when the flames stormed up to the Pacific Hotel. This superb edifice occupied the whole block in which it was situated, and had just been erected at immense cost, some of the heaviest railway lines centering in the city furnishing a large proportion of the means. The building had just received its roof, and, by its imposing dimensions and fine architecture, was one of the chief ornaments of the doomed city.

The intense heat was now continually creating new wind centres, by the rarefaction of the air; so that although the main course of the tempest was still toward the northeast, whirlwinds of fire were formed, which gave the conflagration abundant opportunities of beating up against the gale. Thus it was, that almost at the same time the Pacific Hotel was consuming, the vast railway depot of the Michigan Southern road was burned. This was (with a single exception) the finest structure devoted to railway purposes on this continent. It was built of Athens marble and extended along several blocks. The massive passenger depot toppled into ruin; but the long brick freight-house saved everything east from them to the lake. For some time it was thought that the elegant buildings near and including the Honore Blocks, Palmer and Bigelow Houses, and the Academy of Design, would escape. But the flames swept through the depot, and flung a shower of brands over De Haven Block, upon the roof of the Bigelow House, and the flames spread thence with new rapidity and fierceness, enveloping the Honore Buildings and the Palmer House with its eight lofty stories, and sweeping down churches, business blocks and palatial residences in one avalanch of fire. Gun-pow-

der was called into requisition, and the most substantial and ornate trade palaces were hurled into the air; but human agency was now of little avail, and one by one the old landmarks of Chicago passed out of existence.

XI.—THE STORY OF THE FIRE—(Continued).

It was about four o'clock in the morning when the announcement was made that the flames had crossed into the North Division. Then the terrible tidings were whispered that the Water Works were in ruins, and that the only friend man had found among the elements was taken from him in this his hour of necessity.

Upon Wabash and Michigan Avenues was now to be witnessed the frenzied stampede of thousands, breaking in mad haste to escape from the heat and from the sight of the horrible scenes which had grown so familiar. Some were on foot, staggering along under the weight of rich packs, and tugging at the hands of halting relatives. Others were piled with stock from their stores, furniture, wives, and children, into vehicles of every conceivable class, many of which had been hired at fabulous prices. The streets were almost totally impassable, and so frantic was the struggle of teams and pedestrians, that there were often complete dead-locks, during which not the least progress was made by any one. Old men were thrown down and trampled upon; children were lost from their parents; and the parents were, in many cases, parted from each other never to meet again.

All this time the fire was leaving behind, in fantastic mould, the hot evidences of its withering strength. Although the destruction proper did not commence until shortly before six o'clock in the North Division, the work of ruin in that section of the city ante-dated this time, in that a part of Lill's Brewery and the Water Works were consumed between four and five o'clock. At about six o'clock the flames passed over the river, *via* the Rush street bridge, and rushed upon the Galena Elevator, which was soon enveloped in fire. The lighter structures with which this Division abounded, gave the hideous legions a glorious opportunity of keeping their lurid ranks unshaken, and the wall of fire never presented an opening until the wooded confines of the extreme north of the Division were attained. It was a phalanx of fire, extending as far as eye could reach to the east and west, and to those who were fleeing before it, possessed a certain terrible grandeur that was not to be observed in the detached work of devastation in the West or South Divisions. Behind it none could see, and as to what might be its solid thickness, the stricken ones had no means of determining. To them it appeared as if the world itself must be on fire, and that the flames were swiftly following the course around the entire globe.

By night-fall of Monday, a great number of refugees had collected in the cemetery at the south end of Lincoln Park, and many had endeavored to dispose themselves as comfortably as possible until the light of another morning should enable them to make their final escape. But the fire-wraith hesitated not at the pollution of the quiet homes of the dead, and was soon curling the leaves and snapping the brush at the cemetery's entrance. Another stampede was all that was left to the heart-sick multitude of living ones who had vainly sought to catch a few hours of fitful rest upon the graves of the sleepers below, whom even this tyrant conflagration could not disturb. Out from the cemetery swarmed the stricken ones, and into the park,

from which they were again routed by the untiring pursuit of the wind and the flames. The only rest was upon the chilly margin of the lake and the bleak wilderness of the open prairies. The edge of the lake was lined with its dreary quota of those who, twenty-four hours before, had gone to rest in happy homes at the close of a Sabbath differing to them from no other Sabbath which had preceded it, but which was the dividing line between prosperity and utter ruin.

The fire, after ploughing away every vestige of the North Division, ceased not in its work of ruin until Fullerton Avenue, the extreme northern limit of the city, was attained. Here, with nothing further upon which it could riot, it at last died away in the second night of its carouse; and just as the long-prayed-for rain came pattering coolly down, the Chicago fire passed into history.

XII.—CHICAGO.

Men said at vespers: "All is well!"
In one wild night the city fell;
Fell shrines of prayer and marts of grain
Before the fiery hurricane.

On three score spires had sunset shone,
Where ghastly sunrise looked on none.
Men clasped each other's hands and said:
"The City of the West is dead!"

Brave hearts who fought, in slow retreat,
The fiends of fire from street to street,
Turned, powerless, to the blinding glare,
The dumb defiance of despair.

A sudden impulse thrilled each wire
That signaled round the sea of fire;
Swift words of cheer, warm heart-throbs came,
In tears of pity died the flame!

From East, from West, from South and North,
The messages of hope shot forth,
And, underneath the severing wave,
The world, full-handed, reached to save.

Fair seemed the old; but fairer still
The new, the dreary void shall fill
With dearer homes than those o'erthrown,
For love shall lay each corner-stone.

Rise, stricken city!—from thee throw
The ashen sackcloth of thy woe;
And build, as to Amphion's strain,
To songs of cheer thy walls again!

How shriveled in thy hot distress
The primal sin of selfishness!
How instant rose, to take thy part,
The angel in the human heart!

Ah! not in vain the flames that tossed
Above thy dreadful holocaust;
The Christ again has preached through thee
The Gospel of Humanity!

Then lift once more thy towers on high!
And fret with spires the Western sky,
To tell that God is yet with us,
And love is still miraculous!

XIII.—DISINTOMBED POMPEII.

This lovely city was entirely destroyed by an eruption of Mount Vesuvius in the year 79 A. D., which suddenly buried the whole place in a storm of volcanic cinders and ashes. It was not until 1748, when a peasant, in sinking a well, discovered a painted chamber containing statues and other objects of antiquity, that anything like a real interest in the locality was excited. In 1755 the amphitheatre was cleared out, and from that time to the present the works have gone on, with more or less activity, sometimes abandoned for several years together, and sometimes resumed for a few months; so that not more than half of the ancient city has yet been uncovered. The number of skeletons hitherto discovered has not been considerable, considering the population, a fact which would prove that the inhabitants succeeded in escaping.

In some instances the houses have since been found disturbed, and it is supposed from this that many of the citizens revisited the site and removed such property as could be easily reached. The walls of the city have been traced throughout their whole extent. They are about two miles in circuit. The amphitheater is more ancient than the Coliseum of Rome, which was not opened till the year after the destruction of Pompeii. The masonry is of rough work; the marble plates must have been removed after the eruption, and nothing of a decorative kind is now visible except a few sculptured keystones. The interior contained twenty-four rows of seats, separated into different ranges, according to the rank of the occupants. The entrances at each end of the arena, for the admission of gladiators and wild beasts, and the removal of the dead, are still perfect. It is said that

at the time of the eruption the citizens were assembled here to witness the games.

The temple of Augusta is a small Corinthian temple, and was discovered in 1823. The steps in front are broken by a low wall, supporting an altar, which was formerly protected by an iron railing. The portico had four marble columns in front and two at the sides, but they were destroyed by the eruption. Several statues have been found here. The entrance to the Civil Forum was under a triumphal arch built of brick and lava, covered with slabs of marble, and still retaining its massive piers, each decorated with two fluted Corinthian columns, with square niches between them, which are supposed to have contained statues and fountains. Large stones were placed across the street, showing how the approaches to the Forum were closed to wheeled vehicles.

The Forum contained the principal temples, tribunals, and other public buildings of the ancient city. It is one of the most spacious and imposing spots in Pompeii, occupying the most elevated point of the city, most of the streets that lead to it ascending from the gates. It is surrounded on three sides by columns of grayish-white limestone, twelve feet high. Above this colonnade there appears, from the traces of stairs, to have been a terrace. The entire area is paved with slabs of limestone. In front of the columns are pedestals for large statues.

Among the ruins an immense number of utensils have been found, consisting of vases, basins, bells, ear-rings, spoons, caldrons, sauce-pans, and lamps. Besides these, implements both warlike and industrial have been disinterred. But the relics most calculated to interest our feelings are the remains of human beings who perished in the great catastrophe. In the vaults of a house in the suburbs were found the skeletons of seventeen persons who sought in vain an asylum. Casts have been taken of the spaces, flowed about with lava, once occupied by these bodies; and they

present strange and ghastly resemblances to the human form in various positions. In all, the ruins of Pompeii are among the most interesting relics that we possess of antiquity.

XIV.—POMPEII.

Pompeii! disentombed Pompeii! Here
  Before me in her pall of ashes spread—
Wrenched from the gulf of ages—She whose bier
  Was the unboweled mountain, lifts her head,
Sad but not silent! Thrilling in my ear
  She tells her tale of horror, till the dread
And sudden drama mustering through the air,
Seems to rehearse the day of her despair!

Joyful she feasted 'neath her olive tree,
  Then rose to "dance and play;" and if a cloud
O'ershadowed her thronged circus, who could see
  The impending deluge brooding in its shroud?
On went the games! mirth and festivity
  Increased—prevailed; till rendingly and loud
The earth and sky with consentaneous roar
Denounced her doom—that time should be no more.

Shook to its centre, the convulsive soil
  Closed round the flying; Sarno's tortured tide
O'erleaped its channel—eager for its spoil!
  Thick darkness fell, and, wasting fast and wide,
Wrath opened her dread floodgates! Brief the toil
  And terror of resistance; art supplied
No subterfuge! The pillared crypt and cave
That proffered shelter, proved a living grave!

Within the circus, tribunal, and shrine,
Shrieking they perished; there the usurer sank
Grasping his gold; the bacchant at his wine;
The gambler at his dice! age, grade, nor rank,
Nor all they loved, revered, or deemed divine,
Found help or rescue; unredeemed they drank
Their cup of horror to the dregs, and fell
With Heaven's avenging thunders for their knell.

Their city a vast sepulchre—their hearth
A charnel-house! the beautiful and brave,
Whose high achievements or whose charms gave birth
To songs and civic wreath, unheeded crave
A pause 'twixt life and death; no hand on earth,
No voice from heaven, replied to close the grave
Yawning around them. Still the burning shower
Rained down upon them with unslackening power.

'Tis an old tale! Yet gazing thus, it seems
But yesterday the circling wine-cup went
Its joyous round! Here still the pilgrim deems
New guests arrive—the reveler sits intent
At his carousal, quaffing to the themes
Of Thracian Orpheus; lo, the cups indent
The conscious marble, and the amphorae still
Seem redolent of old Falerno's hill!

It seems but yesterday! Half sculptured there,
On the paved Forum wedged, the marble shaft
Waits but the workman to resume his care,
And reed it by the cunning of his craft.
The chips, struck from his chisel, fresh and fair,
Lie scattered round; the acanthus leaves in graft,
The half-wrought capital; and Isis' shrine
Retains untouched her implements divine.

The streets are hollowed by the rolling car
In sinuous furrows; there the lava stone
Retains, deep grooved, the frequent axle's scar,
Here oft the pageant passed, and triumph shone,
Here warriors bore the glittering spoils of war,
And met the full fair city smiling on
With wreath and pœan!—gay as those who drink
The draught of pleasure on destruction's brink.

The frescoed wall, the rich mosaic floor,
Elaborate, fresh, and garlanded with flowers
Of ancient fable;—crypt, and lintelled door
Writ with the name of their last tenant—towers
That still in strength aspire, as when they bore
Their Roman standard—from the whelming showers
That formed their grave—return like spectres risen,
To solve the mysteries of their fearful prison!

XV.—A VISIT TO MAMMOTH CAVE.

Our party, after leaving the coach and registering their names, were requested to get ready for the cave. In the course of twenty minutes or a half-hour, the lady from Baltimore came forth in bloomer, leaning on the arm of her husband; and the guides, with their peculiar lamps, appeared and took charge of the party. Passing out through the back garden of the hotel, we came to a stile from which the path leads down into a wooded ravine terminating at Green River. We came suddenly upon the mouth of the cave,—a dark archway cut out of the limestone at the bottom of a natural shaft. Vegetation flourishes in all manner of trailing vines about the entrance. A few lichens wander a little way in with the light, and then all vegetable life abruptly ceases. The old entrance is further down the ravine, near the Green river, where the cave may still be entered and explored as far as the breach forming the present mouth. At the old entrance, no descent is required; one walks into the cave on a horizontal line, as into any artificial tunnel.

The good-natured Garvin, the colored guide, lighted the lamps and handed one to each of us, and taking up his own with a bundle of paper saturated in kerosene, he called out in a grave military voice "Forward," warning us at the same time to keep our lamps before us, for the cave was "breathing in." The cave exhales or inhales as the temperature of the outside is above or below a uniform standard. At the mouth, and for a little distance into the darkness, we could feel the chill of the cold air coming in from the damp ravine. We held our lamps before us to keep them from blowing out. Coming out in the afternoon, the current was going just in the opposite direction. This phenomenon is called "the breathing of the cave." It was not long before we got beyond the effect of this current, and found the dry, still air of the rocky chambers and avenues very pleasant. The guides, who spend most of their waking hours in these silent depths, wear flannel clothes of equal thickness summer and winter.

Not far from the entrance we came to "The Rotunda." It is a large cavern, over seventy-five feet high and one hundred and sixty feet across being, as the guide informed us, directly under the dining-room of the hotel and the beginning of the main cave.

Besides the bats, and the well-known eyeless fish and craw-fish of the subterranean rivers, the only living things, I believe, yet found in this mysterious region are some large, sluggish crickets which do not chirrup; a few lizzards with great prominent eyes like the crickets, and like them, also, slow in their movements; and some light-gray rats, with head and eyes somewhat resembling those of the rabbit, but they are much larger than their cheese-loving kindred of the upper world, though equally shy. We saw traces of these last wherever we sought for them, miles from the entrance of the cave. They, however, kept well out of sight, much to the relief of the lady from Baltimore.

Leaving the "Rotunda" we took our way through a

winding avenue to the next grand chamber in the rock. This is called the "Kentucky Cliffs," from the resemblance which is traced between the rough, beetling crags here to the cliffs on the Kentucky River. Passing by the cluster of holes in one of the walls, called "The Pigeon Boxes," we came to "The Church," a vast, irregular room with a Gothic roof. A solid stone projection in the shape of a platform, about three feet above the main floor, forms "The Pulpit." Here divine services have been held. An elevated gallery, rude but unmistakable, extends around a part of this chamber. Further along we ascended some wooden steps, and having gone but a little way, the military Garvin ordered us to halt. Then he disappeared, and the next we saw of him he was standing on a projecting crag, with a great threatening shadow behind him on the wall, mocking every motion he made. Several avenues lead from the "Rotunda," as from most of the other large chambers. There are said to be about one hundred and fifty avenues in the entire cave which have been explored. The total length of these is estimated at one hundred miles. The real extent of the cave is much greater than this, for there are hundreds of avenues which have not even been entered, and many of which are reasonably thought to be as extensive as any hitherto explored.

From the "Rotunda" the guide led through "Audubon's Avenue" to "The Great Bat Room." Here countless thousands of bats cling to the walls and ceiling. They have taken full possession of this particular cavern. They nestle together like huge swarms of bees, in bunches of many bushels. The guide does not know what they feed upon, or how long they stay there dozing away. Few are ever seen outside the cave at once.

My memory is hopelessly lost in these vast labyrinths. I cannot recall half that we saw or the order in which the wonders were shown us. The next halt of the guide which I recollect was in a great irregular room in the middle of

which rests an immense rock in the exact shape of a sarcophagus. This is called "The Giant's Coffin," and nowhere else in this dark realm is a name as appropriately chosen. While we were marveling at the perfect resemblance, Garvin had stolen from us and mounted the coffin. Lighting a roll of his saturated paper, he stood with the gigantic shadow on the dark wall above him and the white sarcophagus beneath his feet.

Our guide led on, through more avenues and halls than I shall try to remember, right into the "Scotchman's Trap." This is a great flat stone which inclines across the way, almost shutting it up. It must have fallen ages ago, but if it had not been caught and held just where it is, it would have closed the rivers and many of the glories of the cave from human sight. From here we went on through the "Valley of Humility," stooping very low till we came to "Fat Man's Misery." This is a narrow, winding path, worn evidently by water. In width and depth it is wonderfully uniform for the length of one hundred and five yards, running right through the solid rock. It is between three and four feet deep, and from eighteen to twenty inches wide. The champion fat man, the largest one ever known to pass here, is said to have weighed two hundred and sixty pounds. Considering the trouble of the stout Englishman of our party, we are led to suppose this historic gentleman must have had a hard time of it. Then he had to go back the same way, just as we did.

At the end of "Fat Man's Misery" there is a large room very happily called "Great Relief." Passing under the three large "Odd Fellows' Links" stretched fantastically in the rock across the ceiling, we came to the "River Hall" and the "Dead Sea." The latter was to us the most impressive scene in the cave. Down to one side went the road which in the season leads to the "Styx" and "Echo" rivers. We could see the ruined steps that, in the language of the guide, had been "washed up." The river had

risen till its waters reached those of the "Dead Sea." A gloomy, sullen sort of thud came back to us as we threw stones over into the depths. Far away in the darkness below we could hear the soughing of the water in the swollen stream. It added to the impressiveness of the scene, I think, to know that we could go no farther,—that the mysterious forces which hold these regions of eternal night had risen up to bar our way.

Leaving "River Hall," we took a side avenue, and following it three-quarters of a mile, we came to the "Mammoth Dome." This is considered one of the principal wonders of the cave, but owing to the difficulty and danger which we encountered in clambering to it, it has not left a very pleasing effect on our minds. To one visiting it when the crags over which he clambers are dry, it must be a magnificent sight. Think of a natural underground cathedral two hundred feet in diameter, and two hundred and fifty feet high! There were only two of us besides the guide who were foolish enough to risk life and limb by climbing the slippery rocks over the precipice leading to it. The Englishman went up, and national pride took your present chronicler after him; but he would not attempt it again for ten times that inducement. It is consoling to think that the Briton was about as badly scared as any one.

All muddy and wet, we escaped back into the dry avenues of the cave, and retraced our steps for two or three miles, perhaps, till we turned into the path leading to the "Star Chamber." This is a vast avenue running through the rock. The concave ceiling is covered with a dark incrustation of iron and manganese, says the guide-book, interspersed with shining crystals of gypsum, giving the whole, in the dim light of our lamps, a striking resemblance to the starry sky. Here the guide took our lamps away from us and disappeared in the darkness. We had time to think of the stories of people who had been lost in the cave and had been found raving mad shortly afterward, before a dim

light began to steal over the miniature sky over our heads. Then the guide gave a very fair imitation of cock-crowing, and treated us to all manner of illusions more or less wonderful, beginning with dawn, taking us through a thunder storm to clear starlight, and ending with the uncertain twilight made by the reappearing of the lights in our midst. These effects are produced, of course, by manipulating the light through the aperture leading into the chamber.

It was on our return journey, I think, that we passed through the "Ball Room," where in the summer time the Hotel Band occasionally plays, and where the dance must become exceeding mazy in underground "hops." On our way out we stopped at one of the little stone houses built over a quarter of a century ago by a number of consumptives, who some way got the idea that the atmosphere of the cave would cure their disease. Several died in the cave, and the rest went outside to die. Some of them are said to have lived five months at a time in the dark. The story of the poor fellow who died while his servant had gone for assistance, and of the terrified expression on his face when found, is only a little more ghastly to think of than the business and other cards which are now stuck up ten deep on the walls that heard his last faint cry for help.

Going forth from the cave, one becomes strangely sensitive to the odors of vegetation, but what struck us most was the relaxing effect of the sunshine. This, however, was of short duration, and none of our party complained of the fatigue of the nine mile journey under the earth. Mr. Graves's dinner, at which we soon all assembled, was something memorable in its way. Graves himself stood by and watched us at our meal, and when our overburdened souls broke forth in praise, he afforded us the spectacle of six and a half feet of stout human joy. Indeed such a degree of hilarity and mutual confidence was established between ourselves and our honest host that we did not look kindly on

the stage coach which was to take us back to Cave City. The red-faced driver had performed two or three different Kentucky break-downs upon the porch, and had mounted his box and cracked his whip impatiently several times before we bade adieu to the Cave Hotel and were whirled away again over the wooded hills.

XVI.—SCENES IN THE HOLY LAND.

The well of Jacob is situated near the ancient town of Shechem, afterwards the Roman Neapolis, and now called Nabulus. Here the Saviour rested at noon-day, wearied with the long journey from Jerusalem. There is little to be seen at the well; and the traveler may either satisfy his curiosity by a passing look, or he may return, in the still evening or quiet morning, and read the strange story of that interview between our Lord and the Samaritan woman. The well is situated in a valley, not far from the village. Formerly there was a hole opening into a vaulted chamber, about ten feet square, in the floor of which was the mouth of the true well. The well is deep—seventy-five feet when last measured—and there is a considerable accumulation of rubbish at the bottom. Sometimes it contains a few feet of water, but at others is quite dry.

The situation of the City of Samaria, if less beautiful, is more commanding than that of Shechem. In the centre of a basin rises an oval-shaped hill, on one side of which is built a modern village on the site of Old Samaria. The

houses are substantially built of old materials, and in their under walls may be seen many a remnant of ancient taste and splendor. The first object we see on entering the village is the Church of St. John, perched on the brow of an eastern declivity. It is, on the whole, one of the most picturesque ruins in Palestine, and attracts the traveler's attention long before he reaches it. It is now a mosque, and, as the inhabitants of the village are secure and isolated, they are always unwilling to let travelers enter, and sometimes prevent them by force. The entrance to the building is from a narrow, sunken court on the west, through a low door. The roof is gone, but the walls remain entire to a considerable height, and the eastern end is almost perfect. There can be little doubt that the Church, as it now stands, is of the time of the Crusaders. In the Church is the reputed sepulchre of St. John the Baptist. It is a grotto, to which there is a descent of twenty-two steps. Aside from the Church, the modern village contains little of interest to the traveler or the student.

Almost every spot along the shores of the "Sea of Galilee" is holy ground. A great part of our Lord's public life was spent here. After his townsmen at Nazareth had ejected and sought to kill him, he came down from the hill-country of Galilee and took up his abode on the shores. But the shores were not then silent and desolate as they are now. They were teeming with life. The new capital of Galilee had recently been built by Herod Antipas. Many prosperous towns, such as Capernaum and Bethsaida and Chorazin, stood upon its beach.

From the mouth of the Jordan to the site of Chorazin, the ground rises from the lake with a slope so gentle as scarcely to be perceptible; then the ascent becomes steeper and the surface more rugged, covered here and there with black stones and projecting crowns of rock. After passing Chorazin, the heights approach the shore, exposing at intervals a rich bank, with tangled thickets of thorny

plants. The modern village is situated in a nook close upon the shore. No site along the shore is so well adapted for a fishing town. Here is a bay, sheltered by hills behind and projecting bluffs on each side; and here is a smooth, sandy beach, such as fishermen delight in. In Bethsaida dwelt the fishermen, Peter, Andrew, Philip, James and John.

The cedars of Lebanon are mentioned so often in Scripture that the phrase is familiar to all readers. We all know how the cedars were used in the construction of the temple at Jerusalem. The mountains of Lebanon are not, in themselves, of much interest. The central ridge is smooth and bare; grand in its vastness, but without beauty. The sides are destitute of verdure, and covered with fragments of whitish limestone. Here and there is a stunted pine. The ascent is steep and tiresome. Having once gained the summit, there is a good view of the Mediterranean, 7,500 feet below. The cedars are situated on the mountain side, about 1,000 feet below the top. At the head of the Kadisha Valley there is a vast recess in the central ridge of Lebanon, some eight miles in diameter. Above it rises the loftiest summit of Syria, streaked with perpetual snow. In the center of this recess stand the cedars. They are alone. Not another kind of tree is in sight, and there is scarcely a brush or patch of verdure on the surrounding declivities. From a distance the prospect of them is rather disappointing, as they seem like a speck on the vast mountain. But on entering the grove such feeling disappears. Then the beautiful fan-like branches and graceful pyramidal forms of the younger trees; the huge trunks of the patriarchs; and the sombre shade they make in the midst of a blaze of light—all tend to excite feelings of admiration. This grove contains about 400 trees, and there are others of about equal size at different parts of the mountains.

XVII.—PALESTINE.

Blest land of Judea! thrice hallowed of song,
Where the holiest of memories, pilgrim-like, throng,
In the shade of thy palms, by the shores of thy sea,
On the hills of thy beauty—my heart is with thee.
With the eye of a spirit I look on that shore,
Where pilgrim and prophet have lingered before;
With the glide of a spirit I traverse the sod
Made bright by the steps of the angels of God.

Blue sea of the hills! in my spirit I hear
Thy waters, Gennesareth, chime on my ear;
Where the Lowly and Just with the people sat down,
And thy spray on the dust of His sandals was thrown.
Beyond are Bethulia's mountains of green,
And the desolate hills of the wild Gadarene;
And I pause on the goat-crags of Tabor to see
The gleam of thy waters, O dark Galilee!

There sleep the still rocks and the caverns which rang
To the song which the beautiful prophetess sang,
When the princes of Issachar stood by her side,
And the shout of a host in its triumph replied.
Lo! Bethlehem's hill-site before me is seen,
With the mountains around and the valleys between;
There rested the shepherds of Judah, and there
The song of the angels rose sweet on the air.

And Bethany's palm-trees in beauty still throw
Their shadows at noon on the ruins below;
But where are the sisters who hastened to greet
The lowly Redeemer, and sit at His feet?
I tread where the TWELVE in their wayfarings trod;
I stand where they stood with the CHOSEN of God:
Where His blessings were heard, and His lessons were taught;
Where the blind were restored and the healing was wrought.

Oh, here with His flock the sad Wanderer came,—
These hills He toiled over in grief are the same,—
The founts where He drank by the wayside still flow,
And the same airs are blowing which breathed on His brow!
And throned on her hills sits Jerusalem yet,
But with dust on her forehead, and chains on her feet;
For the crown of her pride to the mocker hath gone,
And the holy Shechinah is dark where it shone.

But wherefore this dream of the earthly abode
Of Humanity clothed in the brightness of God!
Were my spirit but turned from the outward and dim,
It could gaze, even now, on the presence of Him!
Not in clouds and in terrors, but gentle as when
In love and in meekness He moved among men;
And the voice which breathed peace to the waves of the sea,
In the hush of my spirit would whisper to me.

XVIII.—ITALY: FLORENCE AND PISA.

Italy is equally rich in beautiful scenery and in attractive historic associations. Its skies are soft, its mountain slopes clothed with verdure, its valleys fruitful, and its cities are treasuries of art. The whole land has become the resort of visitors from all parts of the world. Among its cities, two of the most attractive are the neighboring Tuscan towns of Florence and Pisa.

It is impossible to imagine anything more lovely than the view of Florence from the heights around which command the city. But within, the feeling is different. Florence

lacks the palatial splendor of Genoa, or the cheerfulness of Milan, or the aristocratic luxury of Venice. The general aspect of the streets and buildings is that of thoughtful, sober dignity. The streets are narrow, shaded by lofty, solid palaces.

Modern Florence is of an irregular shape, unequally divided by the Arno, now shallow and sluggish, now swelling, now rushing down from the mountains with irresistible fury; three-quarters are on the north, and one on the south side of the river.

The first distinct historical notice of Florence is the mention of an embassy sent by the Florentines to Rome, A. D. 10. Remains of Roman buildings have been discovered, but rude and poor, and indicating the happy obscurity and insignificance which the city enjoyed. Of the modern city, the *Lungo* l'Arno is that part which first offers itself to the view of the stranger. The buildings crowd upon it in lofty groups, some with the elegance of beauty, some towered like castles; all with the charm of variety. Whether in the early morning, when the mosses are purpled in the light of the yet unrisen sun, or in the bright, pale glow of day, when the heavy shadows are cast at the foot of the edifices, or in the sweet, genial evening, it is at all times a scene of unrivaled pleasantness.

Of the palaces of Florence none has acquired such fame as the Pitti Palace. This splendid structure, lately the residence of the sovereign, has from its beginning been most intimately connected with the fates and fortunes of Florence. It was commenced in 1440, and came into the hands of the Medicis family by purchase in 1559. The exterior elevation, presenting a vast, extended, but not very lofty, front, is solid, massive, almost colossal. It is generally complained of that the aspect is more like a prison than a palace, and the rough masses of stone employed in the basement are too sternly strong for a palace where ornament and finished beauty should prevail. The interior of the palace is a re-

pository of all that is excellent in Florentine, and in fact Italian art. Here are preserved some of the most valuable paintings of the old masters.

If the traveler from England were to merely see the city of Pisa, and then return home immediately, seeing nothing else, the time, trouble, and expense of the journey would be well bestowed. The noble groups formed by the Duomo, the Baptistery, and the church of the Campo Santo, rise in solemn tranquility from the green meadow of close-shaven turf, apart from all the ordinary habitations of mankind. The tower, the temples, and the sepulchre, form a city of their own; their forms standing out in the yellow glory produced by the full effulgence of the Italian sun and sky.

There are few buildings of which the forms are more familiar to us than those of the leaning tower and dome of Pisa; yet there are also few which can be so little understood or appreciated until the reality has been seen. The Duomo stands upon a terrace ascended by steps, adding much to its majesty; and with the exception of the light and elegant Gothic arches which encircle the cupola, forming as it were, a crown out of which it rises. Passing from the brightness of the outward scene, in which the golden glow of the marble shining in the mid-day sun is almost overpowering, one is hardly prepared for the coolness and sweetness of the subdued air, and the dim light magically pervading the interior of this impressive sanctuary. The windows of stained glass give great completeness to the view. The Duomo was once very rich in monuments, but some were destroyed by the fire in 1596, and others have been removed.

The Campanile is more usually called the "Leaning Tower;" but this name does not convey anything like a real notion of the bearing and form of the building. It is not a leaning tower, but a contorted or twisted tower. Like a tree, which, springing out of the shelving side of a rock, strives to become perpendicular, and bends its trunk by force of vegetation; so accordingly have the architects, as

they proceeded in their work, after the first sink, endeavored to right the building. The consequence has been an irregular curvature in this great trunk. The Campanile not only leans, but has also sunk down into the ground. The foundation appears to have cut into a vein of quicksand, and it has sunk so much that you could not see the base, were it not for the excavations around it.

XIX.—THE JAPANESE AND THEIR CUSTOMS.

The empire of Japan consists of a chain of islands lying off the eastern coasts of continental Asia. The largest of these islands is called Nipon, and it has a length of more than 900 miles. Besides Nipon there are two other large islands, and a multitude of smaller ones. Although the history of the Japanese, as an organized and civilized people, extends back beyond the Christian era, the ancient geographers were ignorant of the very existence of the empire. The first notice of Japan was given to the world by Marco Polo, who heard of the country under the name of Zipangu, while in China near the close of the thirteenth century.

This was followed up by its actual discovery in the year 1542, fifty years after the discovery of America. A Portuguese vessel, bound for Macao, was driven far out of her course by a tempest, and landed on one of the Japanese islands. The foreigners were well received, and a trade was established which was long monopolized by the Portuguese. Missionaries were also sent and were very successful in their

efforts at conversion, until by inward contentions they attracted the attention of the government, who began a series of persecutions, terminating in the expulsion of all Portuguese from the empire.

For two hundred years the Japanese had absolutely no intercourse with any other nation; and it is to America that the credit belongs of re-establishing commercial relations with Japan. The increased traffic between Eastern Asia and Northwestern America, and the importance of the whale-fishery in the Japanese seas, had rendered it very desirable to have free access to at least some of the ports of Japan. Repeated attempts had been made by England, Russia, and the United States, but without success, when at length the latter government resolved to fit out an expedition that would be worthy of the object. Commodore Perry sailed in command from Norfolk, November, 1852, and in 1854 concluded a treaty, by which the ports of Japan were to be open to American vessels. The same privilege has since been accorded to Great Britain.

The traditional or fabulous portion of Japanese history extends far beyond the Christian era; though the empire does not claim such extravagant antiquity as do the Hindoos and Chinese. The first emperor, and the civilizer of the Japanese, is said to have ascended the throne 660 B. C. The first of the noted historical personages, after him, is Yamato, who is supposed to have lived during the second century. He was a famous military chieftain, belonging to the imperial family, and achieved the conquest of the eastern and northern portions of the Island of Nipon.

Buddhism was introduced in the reign of Osin, about a century afterwards; and its introduction by way of China brought with it various Chinese customs, such as the degrees of rank among government officials. The Emperor Yoritomo died in 1199 A. D., and is generally regarded by the Japanese as the greatest hero in their history. In the latter part of the thirteenth century, there was a war with

China, which was governed at that time by the great Kubla Khan. The next few centuries were occupied with civil strife, in the midst of which Christianity was introduced into the country. It was owing to this lack of central power, and the very general conflict of rival interests at the time, that the Jesuit missionaries were allowed so much freedom at first.

The policy of the present government of Japan is to preserve the friendship of other nations, and employ the science and skill of modern times in developing the resources of Japan. Hundreds of intelligent young Japanese, some of them belonging to the best families of the Empire, have been sent to the United States to be educated. The commercial relations between the countries are constantly growing more extended and important, and former restrictions are gradually relaxing, as the people become familiar with the new order of things. No oriental race shows such capacity for progress as the Japanese. One of their characteristics is a restless curiosity, which assists them in rapidly acquiring a knowledge of science and the mechanic arts; and the eagerness which the government now exhibits to avail itself of all modern discoveries is all the more remarkable, since the opportunity was so long and so stubbornly resisted.

XX.—GLACIERS AND ICE CAVES.

The glaciers, one of the most sublime and wonderful features of nature, are formed from the gathered snow which falls on the higher summits and valleys, and which

remains for several months a dry and loose powder, until the heat of the summer sun begins to melt and consolidate it. Under the influence of the sun's warmth, the snow first softens; and to pass over it in that state is like walking among rice or peas, in which the foot sinks up to the knees. Lower down, or as the heat increases, so as to melt a considerable portion, and cause the water to percolate it, it becomes a compact mass.

The frosty temperature of the night hardens that which has been dissolved in the day; and thus, after repeated thawings and freezings, the whole undergoes a fresh crystallization, being converted into ice of a coarser grain and less compact substance than common ice. Thus, by a succession of partial changes of the millions of frozen particles, the snow of the high mountain summits is made into ice, and the white flakes falling on the peaks become those rivers of bluish crystal, which slowly make their way down between the sides of the gorges.

Imperceptibly the field of snow is changed into glacier. The newly-fallen flakes begin by first settling down and hardening. Then, when the rays of the sun have warmed the snow-field to melting point, a number of small drops penetrate into the lower layers, and, freezing again into small envelopes, become cemented all together into a compact mass. The snow may thus become very hard, and on the edge of many of the precipices it forms a kind of overhanging penthouse, which resists for a considerable time the effects of the weather without giving way.

In the end the entire thickness of the snow-field changes its structure. Particles of ice approach one another, and unite across the little veins of water which fill it in every direction; fresh liquid films are formed under the pressure above; fresh unions take place between the divided morsels of ice; and by this continual process of change, the air contained in the mass of that which once was snow is gradually expelled. Thus it happens that the whole mass at last

assumes an almost perfect transparency, and a beautiful azure color. It is, however, the case every winter that the clefts on the surface of the glaciers are filled up with fresh masses of snow. These new layers, to which an intermixture of air-bubbles gives a whitish tint, are dragged and thrown forward by the general movement.

In several glaciers, where mighty cracks or crevices (called *crevasses*) disclose the inner structure of the whole mass, it is wonderful to see the layers of gray snow and the blue belts of ice, just like the beds of a formation of rocks. The snows which are thus transformed into ice by the effects of pressure form the enormous masses which cover the mountain sides, and fill up whole valleys. Some of these glaciers—those of the Pyrenees, for instance—only extend over the upper slopes of the mountain, and do not descend through the gorges as far as the cultivated grounds at its base. There are other fields of ice which also take their rise on lofty peaks, and, flowing out into the mountain amphitheaters, make their way into the lower valleys, uniting, on each side of their beds, with the ice of other gorges; these are glaciers of the first order. There are some which extend to a length of twelve, eighteen, or thirty miles, and attain a thickness of several hundred yards.

There are two distinct and different snowy coverings of the high Alps. The term glacier is given to the lower limbs of more solid ice, which stretch down into the valleys. The upper part presents a smooth, hollow surface of dazzling white, while that of the glacier is convex; its crevasses are wider, and are thinly covered over with treacherous snow. It is a region of complete desolation. On the upper part the snow which falls in the winter does not entirely disappear in the course of the following year; while that which falls on the lower glacier is almost always melted in the course of the summer, and never combines with the ice.

Mountaineers, for a long time, have been aware of the fact that glaciers move onward, and convey masses of rock

from the mountain summits down into the valleys. The motion is found to be the more rapid in the central portion of the field of ice. The mass of the glacier occupying the centre of the bed descends more quickly than the parts near the two sides. The real cause of the onward motion of rivers of ice lies in the formation of innumerable cracks, and in the re-gathering of all the broken fragments into a fresh mass. Under the pressure of the enormous weight which pushes it forward, the ice ultimately becomes so moulded as to fit perfectly into its channel of rocks, just as if it were a pasty mass. If the gorge becomes narrow, the glacier lengthens, in order to make its way into the defile; if the mountain sides widen out in a basin, the glacier spreads out like a lake in the broad hollow.

Spring time is the season when the river of ice descends toward the valley with the greatest rapidity. The blocks of ice, glued to the sides of their bed by the frosts of winter, regain their liberty. It is probable that in summer the progress of a glacier is at least double as fast as it is in the cold season. Not only does the river of ice act exactly like a liquid watercourse, by its waves rolling on with much more rapidity in the central portion than at the edges, but, like all other rivers, it assumes the greater amount of force in its current at the outer side of its successive windings. The same cause which impedes the motion of a glacier at the edges—that is, the friction of the sliding mass against the rocks—makes its current slower along its bed.

Glaciers are thus always being renewed and destroyed. The arms or skirts descending into the lower valleys are gradually melted by the increased warmth. The summer sun, aided by particular winds, acts upon the surface, so that, in the middle of the day, it abounds in pools and rills of water. The constant evaporation from every part exposed to the air greatly lessens the upper beds; but, above all, the warmth of the earth is constantly melting away its lower surface.

The vacancy thus caused from below is entirely filled up from above by the winter's snow falling upon the mountain-tops, and on the whole upper region, which is drifted into the higher valleys, and pressed down by its own weight. After it has hardened into ice, the slope of the mountain sides, and the descent of the valleys in which the glaciers lie, serve as inclined planes, down which the ice slides, assisted by the melting on its under surface, which prevents any adhesion to the rock below it.

Hugi, in one of his journeys, found his way under a glacier by following the bed of a dried-up torrent which passed below it. He wandered about beneath the ice for the distance of a mile. The ice was everywhere eaten away into dome-shaped hollows, varying from two to twelve feet in height, so that the whole mass of the glacier rested at intervals on pillars or feet of ice, irregular in size and shape, which had been left standing. As soon as any of these props gave way, a portion of the glacier would of course fall in and move on. A dim twilight, coming through the mass of ice above, prevailed in these caverns of ice, not sufficient to allow one to read, except close to the fissures which directly admitted the daylight. The intense blue of the mass of the ice contrasted remarkably with the pure white of the icy pendants descending from the roof.

The water streamed down upon him from all sides, so that after wandering about for two hours, at times bending and creeping to get along under the low vaults, he returned to the open air, quite drenched and half frozen. The surface of the mountain, however hard, is subjected to an extraordinary process of grinding and polishing from the vast masses of ice constantly passing over it. The harder fragments act like diamonds on glass, and scratch deep and long grooves on the surface. The seat of ancient glaciers, which have now entirely disappeared, may still be discovered by the furrows left behind them on the rocks.

The nature of the upper surface of the ice depends upon

that of the ground on which it rests; where it is even or nearly so, the ice is smooth and level; but whenever the supporting surface becomes slanting or uneven, the glacier begins to split and gape in all directions. As it approaches a steeper slope or precipice, the layers of ice are displaced, upheaved, and squeezed one above another; they rise in toppling crags and towers of the most fantastic shapes, varying in height from twenty to eighty feet. Being unequally melted by the wind and sun, they are continually tottering to their fall, either by their own weight or the pressure of other masses, and, tumbling headlong, are shivered to atoms with a roar like thunder.

The crevasses, or fissures, which traverse the upper portion of the glacier before it becomes entirely broken, run crosswise, never extending quite across the ice-field, but narrowing out at the ends, so that when they gape too wide to leap across, they may always be turned by following them to their end. These rents and fissures are the chief source of danger to those who cross the glaciers, being often concealed by a treacherous coating of snow, and many a bold chamois-hunter has found a grave in their recesses. Ebel mentions an instance of a shepherd who, in driving his flock over the ice to a high pasturage, had the misfortune to tumble into one of these clefts. He fell in the vicinity of a torrent which flowed under the glacier, and, by following its bed under the vault of ice, succeeded in reaching the foot of the glacier, with a broken arm. The waters collected by the melting of the ice from all parts of the surface of a glacier often accumulate into torrents, which, traversing the glacier, at length precipitate themselves into a hole or fissure in its surface in the form of a cascade.

A singular circumstance occurs when a single large mass of rock has fallen upon the glacier; the shade and protection from the sun's rays afforded by the stone prevents the ice on which it rests from melting, and, while the surface around is gradually lowered, it remains supported on a pil-

lar or table, like a mushroom on a stalk, often reaching a height of several feet. At the lower end of almost all glaciers a high cross ridge of rubbish, called the terminal moraine, exists. It consists of the fragments of rock which have fallen from the surrounding mountains, and of masses detached by the glacier itself. These are heaped up sometimes to a height of eighty or one hundred feet.

Not unfrequently there are three or four such ridges, one behind the other. The broken stones, mud and sand, mixed with shattered fragments of ice, of which they are composed, have an unsightly appearance. The glacier, indeed, has a natural tendency to purge itself from impurities, and whatever happens to fall upon it is gradually discharged in this manner. It likewise exerts great force, and, like a vast millstone, grinds down not only the rock which composes its channel, but all the fragments interposed between it and the rock, forming, in the end, a sort of stone-meal.

It is highly interesting to consider how important a service the glaciers perform in the economy of nature. These dead and chilly fields of ice, which prolong the reign of winter throughout the year, are, in reality, the source of life and the springs of vegetation. They are the locked-up reservoirs, the sealed fountains, from which the vast rivers traversing the great continents of our globe are sustained. The summer heat, which dries up other sources of water, first opens out their bountiful supplies. When the rivers of the plain begin to shrink and dwindle within their parched beds, the torrents of the mountains, fed by melting snow and glaciers, rush down and supply the deficiency.

During the whole summer, the traveler who crosses the glaciers hears the torrents melting and running below him at the bottom of the azure clefts. These plenteous rills gushing forth in their dark beds are generally all collected in one stream, at the foot of the glacier, which, in consequence, is eaten away into a vast dome-shaped arch, sometimes 100 feet high, gradually increasing until the constant

thawing weakens its support, and it gives way and falls in with a crash. Some caverns of ice are seen in great perfection, in some years, at the source of the Arveyron, in the valley of Chamouni, and in the glaciers of Grindenwald. The streams issuing from glaciers are distinguished by their turbid, dirty-white, or milky color.

XXI.—HYMN BEFORE SUNRISE IN THE VALLEY OF CHAMOUNI, SWITZERLAND.

Hast thou a charm to stay the morning star
In his steep course? So long he seems to pause
On thy bald, awful head, O sovereign Blanc!
The Arve and Arveyron at thy base
Rave ceaselessly: but thou, most awful form,
Risest from forth thy silent sea of pines,
How silently! Around thee and above,
Deep is the air and dark, substantial, black.
An ebon mass! methinks thou piercest it
As with a wedge. But when I look again,
It is thine own calm home, thy crystal shrine,
Thy habitation from eternity.

O dread and silent Mount! I gazed upon thee
Till thou, still present to the bodily sense,
Didst vanish from my thought: entranced in prayer
I worshipped the Invisible alone.

Yet, like some sweet beguiling melody,—
So sweet we know not we are listening to it,—
Thou, the meanwhile, was blending with my thoughts,
Yea, with my life and life's own secret joy;
Till the dilating soul, enwrapt, transfused,
Into the mighty vision passing—there
As in her natural form, swelled vast to heaven.

Awake, my soul! not only passive praise
Thou owest! not alone these swelling tears,
Mute thanks, and secret ecstacy! Awake,
Voice of sweet song! Awake, my heart, awake!
Green vales and icy cliffs! all join my hymn.

Thou first and chief, sole sovereign of the vale!
O, struggling with the darkness of the night,
And visited all night by troops of stars,
Or when they climb the sky, or when they sink,—
Companion of the morning-star at dawn,
Thyself earth's rosy star, and of the dawn
Co-herald—wake, O wake, and utter praise!
Who sank thy sunless pillars deep in earth?
Who filled thy countenance with rosy light?
Who made thee parent of perpetual streams?

And you, ye five wild torrents fiercely glad!
Who called you forth from night and utter death,
From dark and icy caverns called you forth,
Down those precipitious, black, jagged rocks,
Forever shattered, and the same forever?
Who gave you your invulnerable life,
Your strength, your speed, your fury, and your joy,
Unceasing thunder, and eternal foam?
And who commanded,—and the silence came,—
"Here let the billows stiffen and have rest?"

Ye ice-falls! ye that from the mountain's brow
Adown enormous ravines slope amain—
Torrents, methinks, that heard a mighty voice,
And stopped at once amid their maddest plunge!
Motionless torrents! silent cataracts!
Who made you glorious as the gates of heaven
Beneath the keen full moon? Who bade the sun
Clothe you with rainbows? Who, with living flowers
Of lovliest blue, spread garlands at your feet?
God! let the torrents, like a shout of nations,
Answer! and let the ice-plains echo, God!

God! sing, ye meadow-streams, with gladsome voice!
Ye pine groves, with your soft and soul-like sounds!
And they, too, have a voice, yon piles of snow,
And in their perilous fall shall thunder, God!

Ye living flowers that skirt the eternal frost!
Ye wild goats sporting ronnd the eagle's nest!
Ye eagles, playmates of the mountain storm!
Ye lightnings, the dread arrows of the clouds!
Ye signs and wonders of the elements!
Utter forth God, and fill the hills with praise!

XXII.—ATHENS AND ANCIENT GREECE.

The historical associations of Greece are mainly clustered around Athens, the metropolis of the country, as well as the former center of refinement and culture in the world. While Rome was in its infancy, the Greeks had carried art to an extent of perfection that has hardly been equaled since. The small peninsula of Greece was divided up into petty states, each jealous of the other, though necessarily leagued together in war against foreign invaders. Among these states, the republic of Athens early acquired a prominence. Being situated near the sea, and having a good harbor, the Athenians were always active in commercial pursuits. By the acquaintance that they thus gained with the institutions of other countries, and especially those of Egypt and Syria, at that time the birth-places of learning and intelligence, the Athenians improved their manners far in advance of the other states, which had little outside communication.

Athens produced many of the great poets, painters, sculptors and orators whose names are quoted familiarly in our schools to-day. Of their works, many have lived after them. The writings of some authors have been preserved entire, and of others a great part has been saved. Sculpture, archi-

tecture, and painting fared worse, and we have few monuments of their genius left. After the overthrow of Greek independence, Greece rapidly degenerated, and until within the last half-century very little was known of the country or its inhabitants.

The common belief was that modern Greece was inhabited by rude tribes, governed by fanatical Turks, whose barbarous rule exposed travelers to insult and robbery. Besides, the country was not known to be distinguished by its natural beauties. In the beginning of the present century the country was more visited by travelers, and by these much information was given to the world in respect to modern Greece. It is now found that the modern Greeks, instead of being a mixed and barbarous people, possess a respectable degree of civilization.

Athens now contains about 40,000 inhabitants. The streets are not regularly laid out, nor are they carefully leveled, and a great open sewer traverses it throughout. Yet at every step are to be seen pretty houses ornamented with columns, and standing in the midst of gardens. There are above three hundred churches in Athens, but only five or six are habitable; the rest are mere sheds or ruins.

The most ancient part of Athens is the Acropolis. It is in general form a rocky platform, about 1,100 feet long and 45 feet broad. It was of old a citadel, but after the invasion of Xerxes became one great sanctuary. On it were built the magnificent temples and other works of art which did more than anything else to preserve the Athenian love of beauty and religion in the latter days of the state. The only approach to it was from the Agora, or Senate house, on its western side.

At the top of a magnificent flight of marble steps, 70 feet broad, stood the Propylæa, constructed under the direction of Pericles, and which served as a suitable entrance to the exquisite works within. They were entirely of the finest and whitest marble, and covered the whole of the western

end of the Acropolis, having a breadth of 168 feet. The central portion of them consisted of two porticos, of which the western one faced the city, and the eastern one the interior of the Acropolis. Each portico consisted of a front of six columns. The central part of the building just described was 58 feet in breadth, but the remaining breadth of the rock at this point was covered by two wings which projected 26 feet in front of the western portico. Each of these wings was in the form of a Doric temple. The northern one was hung with paintings, while the southern one consisted only of a porch or open gallery.

On passing through the Propolæa, all the glories of the Parthenon, the most perfect production of Grecian architecture, became visible. It derived its name from its being the temple of Athena Parthenos, the invincible goddess of war. It was completed in 438 B. C. The Parthenon stood on the highest part of the Acropolis, near the centre. Its dimensions were 228 feet in length, 101 feet in breadth, and 66 feet in height. It was divided into two chambers, the ceilings of which were supported by rows of columns. The whole building was adorned with the most exquisite sculptures. The chief wonder of the Parthenon was the colossal statue of the virgin goddess which stood in the eastern chamber of the building.

The Areopagus (Mars' Hill) was a rocky height opposite the western end of the Acropolis, from which it was separated only by some hollow ground. This was the spot where the Apostle Paul preached to the men of Athens.

Of all the temples and works of art that once adorned the Acropolis, nothing remains but ruins. The western front of the Parthenon is partly standing, as well as some of the Propylæa, but they only serve to faintly shadow forth their former magnificence.

"Lovely wert thou, Athens, in thy classic grace! The very dust of thy marbles is precious in our eyes; for the feet of those have walked upon it who have been the friends

of pleasant hours in the morning dream, or when the midnight lamp shed its light upon the yellow page their genius made real with thought and the melody of numbers."

XXIII.—GREECE IN 1809.

Fair Greece! sad relic of departed worth!
Immortal, though no more; though fallen, great;
Who now shall lead thy scattered children forth,
And long accustomed bondage uncreate?
Not such thy sons who whilom did await,
The hopeless warriors of a willing doom—
In bleak Thermopylæ's sepulchral strait:
O! who that gallant spirit shall resume,
Leap from Eurotas' banks, and call thee from the tomb?

Spirit of Freedom! when on Phyle's brow
Thou sat'st, with Thrasybulus and his train,
Could'st thou forbode the dismal hour which now
Dims the green beauties of thine Attic plain?
Not thirty tyrants now enforce the chain,
But every carle can lord it o'er thy land;
Nor rise thy sons, but idly rail in vain.
Trembling beneath the scourge of Turkish hand,
From birth to death enslaved: in word, in deed, unmanned.

In all, save form alone, how changed! and who
That marks the fire still sparkling in each eye,
Who but would deem their bosoms burned anew
With thy unquenched beam, lost Liberty!
And many dream withal the hour is nigh
That gives them back their father's heritage;
For foreign arms and aid they fondly sigh,
Nor solely dare encounter hostile rage,
Or tear their name defiled from Slavery's mournful page.

Hereditary bondsmen! know ye not,
Who would be free, *themselves* must strike the blow?
By their right arms the conquest must be wrought;
Will Gaul or Muscovite redress ye? No!
True, they may lay your proud despoilers low;
But not for you will Freedom's altars flame.
Shades of the Helots! triumph o'er your foe!
Greece! change thy lords; thy state is still the same:
Thy glorious day is o'er, but not thy years of shame.

When riseth Lacedæmon's hardihood,
When Thebes Epaminondas rears again,
When Athens' children are with hearts endued—
When Grecian mothers shall give birth to *men*—
Then thou mayst be restored; but not till then.
A thousand years scarce serve to form a state;
An hour may lay it in the dust; and when
Can man its shattered splendor renovate?
Recall its virtues back, and vanquish Time and Fate.

And yet how lovely, in thine age of woe,
Land of lost gods, and godlike men, art thou!
Thy vales of evergreen, thy hills of snow,
Proclaim thee Nature's varied favorite now.
Thy fanes, thy temples, to thy surface bow,
Commingling slowly with heroic earth;
Broke by the share of every rustic plough;
So perish monuments of mortal birth:
So perish all, in turn, save well-recorded worth!

Save when some solitary column mourns
Above its prostrate brethren of the cave;
Save where Tritonia's airy shrine adorns
Colonna's cliff, and gleams along the wave;
Save o'er some warrior's half forgotten grave,
When the gray stones and unmolested grass
Ages, but not oblivion, feebly brave
While strangers only, not regardless, pass,
Lingering, like me, perchance, to gaze, and sigh "Alas!"

Yet are thy skies as blue, thy crags as wild,
Sweet are thy groves, and verdant are thy fields,
Thine olive ripe as when Minerva smiled,
And still his honeyed wealth Hymettus yields.

There the blithe bee his fragrant fortress builds,
The freeborn wanderer of thy mountain air,
Apollo still thy long, long summer gilds,
Still in his beams Mendeli's marbles glare;
Art, Glory, Freedom fail, but Nature still is fair.

Where'er we tread 'tis haunted, holy ground;
No earth of thine is lost in vulgar mould;
But one vast realm of wonder spreads around,
And all the Muse's tales seem truly told,
Till the sense aches with gazing, to behold,
The scenes our earliest dreams have dwelt upon,
Each hill and dale, each deepening glen and wold,
Defies the power which crushed thy temples gone;
Age shakes Athena's tower, but spares gray Marathon.

Long to the remnants of thy splendor past,
Shall pilgrims pensive but unwearied throng,
Long shall the voyager, with th' Ionion blast,
Hail the bright clime of battle and of song.
Long shall thine annals and immortal tongue,
Fill with thy fame the youth of many a shore;
Boast of the aged! lesson of the young!
Which sages venerate and bards adore,
As Pallas and the Muse unveil their awful lore.

XXIV.—A BIRD'S-EYE VIEW OF THE MOUNTAIN HEIGHTS OF EUROPE.

The mountains of Europe have been divided into several different groups, among which those of the British Islands are least important. These lie chiefly in Wales and Scotland; and, although they present scenes of beauty and rug-

ged grandeur, they are not of such height and extent as to merit extended notice. The hills are wild, but the valleys are cultivated. Snowdon is the loftiest summit in England and Wales, and rises, in the center of a chain about 35 miles long, to the height of 3,571 feet. Wales presents a variety of fine mountain scenery, with rich historic associations. The highest mountain in Scotland is Ben Nevis, about 4,400 feet high, and 24 miles in circumference. Its northern front consists of two faces, and on the level top of the lowest of these is a wild mountain lake, where a strange scene of desolation presents itself. The higher part of the mountain shoots up its black rocks, strewed with great fragments of stone, and forming a bare and rugged covering for the mass beneath. A terrific precipice on the northeastern side makes a sheer descent from the summit of 1,500 feet. The pass in the neighborhood is magnificent in its outlines of mountain slope and valley.

The Spanish peninsula is a table-land crossed by ranges of mountains, and nearly surrounded by the sea. The Atlas and Spanish mountains were at one time united, but are now cut apart by the Straits of Gibraltar, a sea-filled chasm nearly 1,000 feet deep, on the European side of which rises the fortress rock which is so famous in history. Its cannon-guarded precipices form a mountainous height which is very picturesque in appearance. The interior table-land of Spain is guarded on the west by the Iberian range, from which spring three other chains, with the Sierra Nevada, the finest range in Europe, except the Alps. The Pyrenees, averaging about 8,000 feet in altitude, rise at the eastward to the Malahite, 11,170 feet above the sea. The snow lies on these mountains the greater part of the year, and is always found on the highest parts, but the glaciers are not large or numerous. The range is very steep on the French side, and ragged, so that its peaks look notched like the teeth of a saw. The Pyrenean range is subdivided from the ridge to right and left into knots and side chains, as a stalk of fern

is divided into small branches, leaves, and leaflets. The passes are high and few. For more than 180 miles in one place the ridge is not crossed by a single carriage road.

The interior of Norway is almost one entire mass of mountains and rocky highlands. But the mountains do not form continuous chains, and there are no prominent summits, though deep and narrow valleys are not infrequent. The highest land is the mass named Sulitelma, 6,000 feet above sea level; and there is only one summit which exceeds 8,000 feet. The Apennines traverse the Italian peninsula. They nowhere reach to the snow line; although they present scenes of wildness and beauty, they are inferior in grandeur to the rocky cliffs of the Jura, the sharp peaks of the Pyrenees, and lofty crests of the Alps.

The Carpathian mountains are about 1,200 miles long, and are steepest on the southern side; their loftiest summit is only 8,460 feet high. A long mountain range curves from the Adriatic to the Black Sea, with an average elevation of less than 5,000 feet, but broken frequently by deep and narrow ravines of terrific appearance. It connects southward with the mountains of Greece, encircled with zones of wood, and covered with snow. The suddenness of their elevation, their magnificent outlook upon sheltered plains, beautiful inland bays broken by picturesque headlands, and their rich historic associations, combine to make these heights among the most impressive in the world.

The Alps are by far the most interesting of European mountains, or indeed of the world. They extend over a considerable part of the continent, and include its highest point. They sweep in a vast semi-circle round Northern Italy, and link themselves to the Apennines. On the west they send out spurs into France, and on the north descend into the *landes* of Prussia. To the east, they reach to Servia and the Danube, and finally, through the Balkhans, they branch out to the shores of the Black Sea and the Ægean.

This great system of mountains, which forms, as it were, the back-bone of Europe, and the branches of which, like the limbs of a body, shape the continent itself, is varied in the richness and variety of its forms, the joining of its ridges, the number of its separate groups, and its framework of secondary chains. To the Alps, the glaciers of which supply, whilst they moderate, the water-courses of Western Europe, the nations which inhabit the latter country owe, indirectly, much of their life and civilization. Standing up, like the bastions of a fort, the chief Alpine groups form a protection to the brave Swiss people. The central mass, which is also the most important, is that of the St. Gothard, situated between Switzerland and Italy; it is the knot where the gathering ridges of the surrounding groups unite like branches.

On the northeast stands the group of Todi; on the east, that of Rheinwald; on the west and south, the much more considerable clusters of the Finsteraarhorn and Monte Rosa. The latter group is linked on to Mont Blanc, rising more to the west; but at this point the Alpine system changes its direction, and, as a whole, bends round toward the south. The Eastern Alps, lying to the east of the St. Gothard, also show this arrangement in groups. The summits of all these groups are more than 9,900 feet in height, and are clad with snow; like the western chains, they well deserve the name of Alps (white), which the Celts gave to these mountains.

The true citadel of the Alps—that which, by the form of its mountains, the number of its peaks, and the importance of its glaciers, deserves more than any other the title of the crowning group—is the mighty rampart of Monte Rosa, the mean height of which is not less than 13,457 feet. The supreme diadem of this association of mountains is at a height of 15,216 feet, whilst Mont Blanc rises to 15,780 feet; but the group of summits which surround this highest point of Europe *averages* only 12,657 feet in height, 800

feet less than the heights of Monte Rosa. Next follow in order of elevation the groups of the Jungfrau, 12,312 feet; the Bernina, 11,345 feet; the Grison Alps, 10,583 feet, and the Todi, 10,311 feet.

Mont Blanc is the highest point of a chain of peaks, whose pinnacles pierce the clouds, and many of which are named "Needles," from their spiry, needle-like summits. Some of them are points of bare and almost perpendicular rock, soaring upward 14,000 feet from snow fields and glaciers. Other Alpine peaks, from their shape, receive the name *horn*, like Mount Cervin or the Matterhorn, which Byron called the ideal shape of a mountain. This bold mass is about forty miles from Mont Blanc, and rears its lofty pillar of rock above the glaciers to an elevation of nearly 15,000 feet.

In the whole chain of the Alps not one object offers so striking an appearance as this remarkable mountain. It is called Monte Silvio by the Italians. The Wetterhorn, the Wellhorn, the vast mass and snowy head of the Glarnisch, are similar summits. The vast masses of Monte Rosa present a scene of savage grandeur, its deep rifts marked by lines of snow, and its steely glaciers streaming down to the icy cave, whence flows the torrent of Anza.

Taken as a whole, the various groups of the central Alps decrease in height from west to east and from south to north; their southern slope is uniformly more abrupt than the northern, which descends in long branches toward the valleys of the Rhone and the Rhine.

Twelve carriage roads, some of which may be reckoned among the triumphs of human industry, cross the ridges of the Alps, and form the means of communication between France, Switzerland and Germany; a railway, also, now some years finished, passes to the east of the Greater Alps, through the Loemmering chain. Finally, four other railway lines are gradually pushing their way into the depths

of the lofty central mountains, and, ere long, free communication will be established under the rocks and glaciers of these once dreaded summits and precipices.

XXV.—DE SAUSSURE'S ASCENT OF MONT BLANC.

Horace De Saussure, the distinguished naturalist, was not twenty years old when he first dreamed of attacking the giant of the Alps. He is the first person known who cherished the thought of climbing to its summit. After waiting twenty-seven years, crowded with daring but fruitless attempts, the dream of his life was realized, under the guidance of Jacques Balmat. It was on the 1st of August, 1787, that De Saussure, accompanied by eighteen guides and a servant, accomplished the first ascent of Mont Blanc undertaken for scientific purposes. The first day was spent in climbing the Montagne de la Côte, and they passed the night on its summit.

The difficulties of our adventurers did not begin until the second day; for, on setting out from the Grand Mulets, they were compelled to traverse the ice and snow. On this second day they commenced by traversing the Glacier de la Côte, a glacier whose passage is often attended with much danger. It is intersected with deep, irregular crevasses, often of great width, and which are only passable upon bridges of frozen snow suspended over the abyss. We give the rest of the account in De Saussure's own language:

On the 2d of August, despite the great interest we all had in starting at an early hour, the guides raised so many difficulties in reference to the distribution and arrangement of their various burthens, that we were not in full march until about half-past six. Each was afraid of overloading himself, less through dread of fatigue, than from an apprehension that he might sink in the snow under too heavy a weight, and so fall into a crevasse. We entered the glacier, face to face with the blocks of granite under whose shelter we had slept.

The approach to it is easy, but travelers soon find themselves entangled in a labyrinth of ice rocks, separated by crevasses, here entirely covered, there only partially concealed by the snows which frequently accumulate in fantastic arches, hollow beneath, and yet very often the sole means of crossing; in other places a sharp ridge of ice serves as a bridge for crossing them. Occasionally, where the crevasses are wholly unfilled, you are compelled to descend to the very bottom, and afterward to remount the opposite wall by steps hewn with a hatchet in the living ice. But nowhere do you ever see the rock; the bottom is always ice or snow; there are moments when, after having descended into these abysses, surrounded by nearly perpendicular walls of ice, you cannot conceive in what manner you shall escape from them. While progressing on the living ice, however narrow may be the ridges, however steep the declivities, our intrepid mountaineers, whose heads and feet are equally sure, seem neither terrified nor disquieted; they gossip, laugh, jest at one another; but in passing along those frail vaults, suspended above profound abysses, one sees them march in the profoundest silence, the first three bound together by cords at a distance of five or six feet from each other, the remainder supporting themselves, two by two, by their staves, their eyes fixed on their feet, each person endeavoring to plant himself firmly and lightly in the track of his predecessor.

When, after crossing one of these suspicious snow tracts, my caravan found themselves on a rock of living ice, an expression of joy and serenity brightened every physiognomy; the babble and the jokes recommenced; then they consulted what route it were best to follow, and, reassured by past successes, exposed themselves with the greatest confidence to new dangers. Thus we spent nearly three hours in traversing this formidable glacier, although it was scarcely a quarter of a league in breadth.

Thenceforth our progress was wholly on the snows, frequently rendered very difficult by the rapidity of their incline, and sometimes dangerous when these inclines terminated upon precipices, but where, at all events, we had no dangers to dread but those we saw, and where we incurred no risk of being swallowed up without either skill or strength being of any service. On the second day, after a thousand perils, the summit was reached, and the wife and sister at Chamouni waved a flag of greeting to the triumphant explorer.

I could there enjoy, without any feeling of regret, the great spectacle displayed before me. A light vapor, floating in the lower regions of the atmosphere, concealed, it is true, the lowest and most distant objects, such as the plains of France and Lombardy; but I did not much lament this loss; for what I had come to see, and what I saw with marvelous clearness, was the grand whole of the lofty peaks whose organization I had so long desired to know. I could not believe my eyes—it seemed to me a dream, a vision—when I beheld beneath my feet those majestic summits, those formidable spires, whose very bases had been so very difficult and dangerous of approach. I seized upon their positions, and a single glance dispelled the doubts which years of labor had been unable to solve.

Meanwhile, my guides were raising my tent, and preparing the little table on which I intended to experiment with boiling water. But when I set to work to arrange my in-

struments and take my observations, I found myself every moment compelled to interrupt my work and give all my thoughts to the actual labor of breathing. If the reader reflects that the barometer was here at 16 inches 1 line only, and that the air was not at above half its ordinary density, he will understand how I was forced to supplement the density by frequency of respiration ; while at the same time, this frequency so accelerated the movement of the blood that the arteries were no longer counterbalanced externally by a pressure equal to that which they usually experience. Therefore we were all attacked with fever.

While I remained perfectly tranquil, I experienced but a slight uneasiness, a tendency to pain about the heart. But when I used any exertion, or when I fixed my attention for a few consecutive moments, and especially when in stooping I contracted my chest, I was obliged to rest, and take breath, for two or three minutes. My guides experienced similar sensations. No sign of animal life was apparent near the frozen peak of the Alpine giant. Two butterflies which fluttered across the last incline of the mountain, about 650 feet beneath its summit, were the only living creatures which our explorers encountered in those silent and lonely deserts. It is probable that a gust of wind from the plain had carried them to this unwonted elevation.

The slight intensity of sound on lofty mountains is easily explained by the rarefaction of the air; this rarefaction, diminishing the mass of the air, necessarily diminishes the intensity of its vibrations. On an isolated peak, the absence of echoes is another cause which reduces the force of the sound. The human voice consequently seems very feeble on Mont Blanc; the discharge of a pistol makes no greater report than a small cracker.

The intrepid explorers of Mont Blanc were incessantly in a feverish condition, which explains the thirst that tormented them, as well as their antipathy to wine, strong liquors and even to any kind of food. They longed only for

cold water, and nothing else would they endure; eating snow did but increase their pain. However, when they kept themselves perfectly tranquil, they did not suffer seriously. Some of the guides and men engaged in the expedition could not endure so many varieties of torture; they were compelled to descend to a more condensed air.

I quitted, with great reluctance, at half-past three, this magnificent place. We passed near the spot where, on the preceding night, we had, if not slept, at least reposed, and we pushed forward another league to the rock in whose vicinity we had halted in our ascent.

I determined to pass the night there. I caused my tent to be raised against the southern extremity of the rock, in a truly singular situation. It stood on a snowy declivity overshadowed by the Dome du Gouter, with its crown of pinnacles, and terminating southward in the peak of Mont Blanc. At the bottom of this declivity yawned a broad and deep crevasse, which separated us from the valley, and swallowed up everything that fell in the neighborhood of our tent. We had chosen this position in order to escape the peril of the avalanches, and because, the guides finding shelter in the gaps of the rocks, we were not crowded within the tent as on the preceding night.

We supped merrily and with a good appetite; after which I passed an excellent night on my little mattress. It was then only that I enjoyed the pleasure of having accomplished the design which I had formed twenty-seven years previously—namely, on my first visit to Chamouni, in 1760; a design which I had so often abandoned and resumed, and which had been a continual source of anxiety and disquietude to my family. It had, indeed, become with me a species of disease; my eyes never rested upon Mont Blanc, which was visible from so many points near my dwelling, without my undergoing a fresh attack of melancholy.

At the moment that I attained the summit, my gratifica-

tion was not complete; it was still less so when I was about to commence my descent, for, until then, I only realized how much I had been unable to complete. But, in the silence of the night, and after thoroughly recovering from my fatigue, when I recalled the observations I had made, and especially when I retraced the splendid picture of the mountains, eternally imprinted on my brain.

XXVI.—THE ALPS.

Proud monuments of God! sublime ye stand
Among the wonders of His mighty hand;
With summits soaring in the upper sky,
Where the broad day looks down with burning eye,
Where gorgeous clouds in solemn pomp repose,
Flinging rich shadows on eternal snows;
Piles of triumphant dust, ye stand alone,
And hold, in kingly state, a peerless throne!

Like olden conquerors, on high ye rear
The regal ensign and the glittering spear;
Round icy spires the mists, in wreaths unrolled,
That ever near, in purple or in gold;
And voiceful torrents, sternly rolling there,
Fill with wild music the unpillar'd air;
What garden, or what hall on earth beneath,
Thrills to such tones as o'er the mountains breathe?

There, through long ages past, those summits shone,
When morning radiance on their state was thrown;
There, when the summer day's career was done,
Played the last glory of the sinking sun;

There, sprinkling lustre o'er the cataract's shade,
The chastened moon her glittering rainbow made,
And blent with pictured stars, her lustre lay,
Where to still vales the free streams leaped away.

Where are the thronging hosts of other days,
Whose banners floated o'er the Alpine ways;
Who, through their high defiles, to battle wound,
While deadly ordnance stirred the heights around?
Gone; like the dream that melts at early dawn,
When the lark's anthem through the sky is borne;
Gone; like the wrecks that sink in ocean's spray,
And chill oblivion murmurs, where are they?

Yet "Alps on Alps" still rise; the lofty home
Of storms and eagles, where their pinions roam;
Still round their peaks the magic colors lie,
Of morn and eve, imprinted on the sky;
And still, while kings and thrones shall fade and fall,
And empty crowns lie down upon the pall,
Still shall their glaciers flash; their torrents roar,
Till kingdoms fall, and nations rise no more.

XXVII.—VALE AND MOUNT.

While all human structures crumble away and disappear, many of the works of nature live on changeless and indestructible forever. There is, moreover, a beauty in the rugged variety of natural scenery which the skill of man can never successfully imitate. Some of the European mountain scenery has justly acquired the admiration of many

generations, and particularly is it the case with some regions in the neighborhood of the Alps:

"The palaces of Nature! whose vast walls
Have pinnacled in clouds their snowy scalps,
And throned Eternity in icy halls
Of cold sublimity; where forms and falls
The avalanche—the thunderbolt of snow!
All that expands the spirit, yet appals,
Gather around these summits, as to show
How Earth may pierce to Heaven, yet leave vain man below!"

Descending the Alps on the Italian side, through the pass of the St. Bernard, beautiful, indeed, and rich in all the glories of picturesque grandeur, is the scenery of the country we pass through. The vale of Aosta, with its trellised vine and luxuriant vegetation, relieved by the back-ground, filled with the beautiful forms reflected by the snowy tops of the mountains, render interesting and delightful our entrance into the city of Aosta. This contains about 7,000 inhabitants, and is remarkable for its antiquities and historical recollections, and for the beautiful scenery surrounding it on every side. Its foundation is set down as being 406 years earlier than that of Rome. Twenty years before Christ, its inhabitants were reduced to captivity by the Emperor Augustus, who gave his own name to it—a name which has been softened by the Italians into the present one of Aosta.

The valley of Lauterbrunnen is remarkable for its depth, its contracted width, and for the precipices of limestone, nearly vertical, which enclose it like walls. Its name, literally translated, means "nothing but fountains," and is derived no doubt from the number of streamlets which cast themselves headlong from the brows of the cliffs into the valley below, looking at a distance like so many pendulous white threads. Here is the Staubbach, the most celebrated of European waterfalls. There are other cascades that are worthy of note, and among them the Schmadribach. This is a large

body of water which, issuing from a glacier, throws itself over a precipice of great height, and after two more leaps of great beauty, reaches the bottom of the valley. Not far from here the Yungfrau veils its lofty summit in eternal snows.

In a secluded valley near Appenzell, Switzerland, stands the singular hermitage and chapel of Wildkirchlein. It is reached by crossing an Alpine pasture which, in spite of its elevation of 5,000 feet above the sea, is in summer a perfect garden, unfolding a treasure to the botanist and affording the sweetest herbage to the cattle. In a recess scooped out of the face of a precipice, 170 feet above these pastures, a little chapel has been perched. It was built in 1756 and dedicated to Saint Michael. A bearded Capuchin occupies the hermitage adjoining, and willingly conducts strangers through the long caverns, hung with stalactites, which perforate the mountain behind his dwelling.

The Sarnthal is a very picturesque little valley in the Tyrolese Alps, down which rushes the brook Talfer. At one end of the valley is the important commercial town of Bozen, delightfully situated at the confluence of the Eisack and the Talfer, which descends from the Sarnthal from the north. A very interesting walk is by the Sarner road through the Sarnthal. It passes a number of old feudal castles, partly in ruins, that lend an air of romance to the quiet scene.

XXVIII.—THE GIANT'S CAUSEWAY.

On the northern coast of Antrim, in Ireland, at a point about fifteen miles from Coleraine, a species of pier, or mole, of basalt projects into the stormy ocean, as if origi-

nally intended to connect the Irish shore with that of Scotland. It is, in reality, but a part of the extensive basaltic mass, from 300 to 500 feet in thickness, which overspreads almost the whole county of Antrim and the east of Londonderry for a total extent of 1,200 square miles. Three layers of the basalt, where it touches the coast, bear a remarkable columnar appearance. The first is seen at the promontory of Fair Head, where the massive pillars are truly cyclopean in character, and upwards of 2,000 feet high. The other two rise above the sea-land at Bengore Head; the lower forming the Causeway, and exhibiting above the surging waters and the shining diamond-spray, an irregular pavement—fit place for sea-nymphs to disport—composed of the tops of many sided columns, fitted together with such admirable exactitude that the blade of a knife can scarcely be thrust between them. The average diameter of each pillar is from twelve to fifteen inches. The Causeway is divided into the Large, Middle, and Little Causeways; the former is the lowest of the three columnar beds, about 30 feet wide and 600 feet in length. The Middle Causeway, commonly called the Honey Comb, lies back of the Little Causeway. The chief object of attraction is the Grand Causeway, which is formed of the upper surface of the first or lowest range of columnar basalt laid bare. The ends of the pillars may be distinctly traced, both on the east and west ends of the Causeway, resting on an ochre bed.

The Causeway, properly so-called, consists of three piers jutting out into the sea, the greater being visible to the extent of 300 yards at low water; the other two not more than half that distance. The cliffs connected with the Causeway, especially in the bay to the eastward, exhibit in many places the same kind of columns, shaped and jointed in all respects like those of the Grand Causeway. Some of them are seen near the top of the cliffs, which, in those bays to the east and west of the Causeway, range from 140 to 490 feet in height; others again are observed about midway, and at different elevations from the strand.

Some of the columns are between 30 and 40 feet high, and, being longest in the middle of the arrangement, and shortening on either hand, they have obtained the appellation of "Organs," from a rude likeness to the frontal tubes of those instruments. To the geologist, the mineralogist, or the observer of nature in her more singular and fantastic moods, the Giant's Causeway and its neighborhood is of surpassing interest.

XXIX.—AN ENGLISHMAN'S VIEW OF THE CITY OF WASHINGTON.

The City of Washington is something more than four miles long, and is something more than two miles broad. The land apportioned to it is nearly as compact as may be, and it exceeds in area the size of a parallelogram four miles long by two broad. These dimensions are adequate for a noble city, for a city to contain a million of inhabitants. It is impossible to state with accuracy the actual population of Washington, for it fluctuates exceedingly. Three avenues sweep the whole length of Washington: Virginia Avenue, Pennsylvania Avenue, and Massachusetts Avenue. But Pennsylvania Avenue is the only one known to ordinary men, and the half of that only is so known. This avenue is the back-bone of the city, and those streets which are really inhabited cluster round that half of it which runs westward from the Capitol. The eastern end, running from the front of the Capitol, is again a desert.

The plan of the city is somewhat complicated. It may truly be called "a mighty maze, but not without a plan." The Capitol was intended to be the center of the city. It faces eastward, away from the Potomac—or rather from the main branch of the Potomac, and also, unfortunately, from the main body of the town. It turns its back upon the chief thoroughfare, upon the whole place. Of course it is generally known that in the Capitol is the chamber of the Senate, that of the House of Representatives, and the Supreme Judicial Court of the Union.

It may be said that there are two centers in Washington, this being one and the President's house the other. At these centers the main avenues are supposed to cross each other, which avenues are called by the names of the respective States. At the Capitol, Pennsylvania Avenue, New Jersey Avenue, Delaware Avenue, and Maryland Avenue converge. They come from one extremity of the city to the square of the Capitol on one side, and run out from the other side of it to the other extremity of the city.

Pennsylvania Avenue, New York Avenue, Vermont Avenue, and Connecticut Avenue do the same at what is generally called President's Square. All these avenues have a slanting direction. They are so arranged that none of them run north and south, or east and west; but the streets, so called, all run in accordance with the points of the compass. Such is the plan of the city, that being the arrangement and those the dimensions intended by the original architects and founders of Washington; but the inhabitants have hitherto confined themselves to Pennsylvania Avenue West, and to the streets abutting from it or near to it. The streets of Washington, such as exist, are all broad. Throughout the town there are open space—spaces, I mean, intended to be open by the plan laid down for the city. At the present moment it is almost all open space.

There are six principal public buildings in Washington, as to which no expense seems to have been spared, and in

the construction of which a certain amount of success has been obtained. In most of these this success has been more or less marred by an independent deviation from recognized rules of architectural taste. These are the Capitol, the Post-office, the Patent-office, the Treasury, the President's house, and the Smithsonian Institution. The five first are Grecian, and the last Romanesque. Going west, but not due west, from the Capitol, Pennsylvania Avenue stretches in a straight line to the Treasury chambers. This reach of Pennsylvania Avenue is the quarter for the best shops of Washington—that is to say, the frequented side of it is so, that side which is on your right as you leave the Capitol.

The Post-office and Patent-office lie a little way from Pennsylvania Avenue, in F Street, and are opposite to each other. The Post-office is certainly a very graceful building. It is square, and hardly can be said to have any settled front or any grand entrance. It is not approached by steps, but stands flush on the ground, alike on each of the four sides. It is ornamented with Corinthian pilasters, but is not over ornamented. It is certainly a structure creditable to any city. Opposite to the Post-office stands the Patent-office. This also is a grand building, with a fine portico of Doric pillars at each of its three fronts. The whole structure is massive and grand, and, if the streets round it were finished, would be imposing. The utilitarian spirit of the nation has, however, done much toward marring the appearance of the building, by piercing it with windows altogether unsuited to it, both in number and size.

XXX.—THE PYRAMIDS AND SPHINX.

The pyramids of Egypt have been frequently mentioned by ancient and modern writers; but the statements of the former respecting their founders are far from satisfactory, and no conjectures seem to explain the object for which they were erected. According to Herodotus, the founder of the great pyramid was Cheops, a prince whose crimes and tyranny made his name odious even to posterity. He compelled 100,000 men to work on the pyramid until its completion, which was not for 20 years.

This pyramid was built in steps, and, as the work proceeded, the stones were raised from the ground by means of machines made of short pieces of wood. The ascent of the pyramids is by no means difficult, though fatiguing to some unaccustomed to climbing, from the height of the stones. On the summit is a space about 32 feet square, which is much larger than formerly, having been increased when the casing and outer tiers were removed by the Caliphs, to serve for the construction of mosques at Cairo. The mania for writing names is abundantly manifested in the number inscribed on the top of this monument.

The view from the summit is extensive, and, during the inundation, peculiarly interesting and characteristic of Egypt The masonry over the entrance of the great pyramid is remarkable; two large blocks resting against each other form a pent-roof arch, and serve to take off the superincumbent weight from the roof of the passages. The principal apartment in the interior is the great gallery. Its dimensions are 34 feet long, 17 feet broad, and 19 feet high. The roof is flat and formed of simple blocks of granite resting on the side walls, which are built of the same materials. Towards

the upper end is a sarcophagus of the same kind of red granite. On being struck it emits a fine sound, as of a deep-toned bell.

Besides the great gallery, there are the King's Chamber, and four smaller ones directly over it. At the bottom of the great gallery is a passage partly vertical, called "the well," which is now closed. It connects the gallery with the lower passage, and is supposed to have been the means of egress to the workmen who had stopped up all other passages. The pyramid is remarkably free from any relics of interest, which is the more remarkable on account of its having been carefully sealed up by its founders.

It was first opened by Caliph Mamoon, in the year 820 A. D.; and the long forced passage to the west, below the level of the present entrance, is supposed to have been made at that time. The object of the Caliph was the discovery of treasure. Tradition says that after long and patient labor, they gained access to the place of the wished-for treasures, and great hopes were entertained of finding a rich reward for their toil. But these hopes were doomed to end in disappointment. The pyramid was empty; and the Caliph, in order to appease the disappointment of the people, secretly placed a bag of gold in the pyramid; and the subsequent discovery of the supposed treasure satisfied the people.

The Sphinx, situated near the great pyramid, is a stupendous figure cut in solid rock, part only of the back being cased with stone, where the rock is defective. The whole is solid with the exception of the forelegs, which, with the small portion above mentioned, are of hewn stone; nor is there any pedestal but a paved platform on which the paws rest. They extend to the distance of 50 feet. An altar, three tablets, and a lion were discovered there; but no entrance could be discovered in that part. The altar stands between the two paws; and it is evident, from its position, that sacrifices were performed before the Sphinx in remote times.

The pyramids of Lakkara are worthy of a visit, and hold a conspicuous position among the "many pyramids on the brow of the hills," mentioned by Strabo. The largest pyramid of Lakkara has its degrees, or steps, stripped of their triangular exterior. It measures about 350 feet square. Within, it resembles a hollow dome, supported here and there by wooden rafters. At the end of the passage is a small chamber, reopened about 35 years ago, on whose door-day were hieroglyphics containing the banner or title of some very old king. All had been carefully closed and concealed by masonry, but the treasures it contained, if any, had long since been removed.

The stone pyramids of Dashoor have their entrances on the north. The peculiarity about one of them is that it was finished at a different angle from the lower part; and this being the only pyramid of this form, it is supposed that the builders depressed the angle in order more speedily to complete it, for had it retained its original form it would have been considerably higher.

XXXI.—REFLECTIONS FROM THE SUMMIT OF AN EGYPTIAN PYRAMID.

Throned on the sepulchre of mighty kings,
Whose dust in solemn silence sleeps below,
Till that great day, when sublunary things
Shall pass away, e'en as the April bow
Fades from the gazer's eye, and leaves no trace
Of its bright colors, or its former place;—

I gaze in sadness o'er the scenery wild,—
On scattered groups of palms, and seas of sand,—
On the wide desert, and the desert's child,—
On ruins made by Time's destructive hand,—
On Temples, towers, and columns now laid low,—
A land of crime, of tyranny, and woe.

O Egypt! Egypt! how art thou debased!—
A Moslem slave upon Busin's throne!
And all thy splendid monuments defaced!
Long, long beneath his iron rod shall groan
Thy hapless children; thou hast had thy day,
And all thy glories now have passed away.

Oh! could thy princely dead rise from their graves,
And view with me the changes Time has wrought,
A land of ruins, and a race of slaves,
Where wisdom flourished, and where sages taught,—
A scene of desolation, mental night!—
How would they shrink with horror from the sight!

Ancient of days! nurse of fair science, arts!
All that refines and elevates mankind!
Where are thy palaces, and where thy marts,
Thy glorious cities, and thy men of mind?
Forever gone!—the very names they bore,
The sites they occupied, are now no more.

But why lament, since such must ever be
The fate of human greatness, human pride?
E'en those who mourn the loudest over thee
Are drifting headlong down the rapid tide,
That sweeps, resistless, to the yawning grave
All that is great and good, or wise and brave.

E'en thou, proud fabric! whence I now survey
Scenes so afflicting to the feeling heart,
Despite thy giant strength, must sink the prey
Of hoary age, and all thy fame depart;
In vain thy head, aspiring, scales the sky,—
Prostrate in dust that lofty head must lie.

The soul alone,—the precious boon of Heaven,—
Can fearless brave of time and fate the rage,
When to thy deep foundations thou art riven;
Yea, Egypt! blotted from th' historic page,
She shall survive, shall ever, ever bloom,
In radiant youth, triumphant o'er the tomb.

XXXII.—SINAI AND NUBIA.

Among the most attractive points of interest in the East is Mount Serbal in the Sinaitic peninsula, which is considered by many scholars and travelers to be the true Sinai of the Bible. The mountain itself is even more grand and striking in outline than its honored neighbor. It rises high above the neighboring summits,—"all in lilac hues and purple shadows,"—as the morning sun sheds upon it his bright beams. It is a vast mass of peaks, which, in most points of view, may be reduced to five. These are all of granite, and rise so precipitously, so column-like, from the broken ground which forms the roots of the mountain, as at first sight to appear inaccessible. They may be best likened to a cluster of stalactites inverted.

The peaks are divided by deep ravines filled with huge fragments of shattered rock; by the central ravine the active traveler may gain the summit in less than four hours. The glorious view will amply repay the toil. The highest peak is a huge block of granite; on this, as on the back of some petrified tortoise, you stand and overlook the whole

peninsula of Sinai. The Red Sea, with the Egyptian hills opposite, and the wide waste of the desert on the south; on the east the vast cluster of what is commonly called Sinai, and towering above all, the less famous but most magnificent of all, the Mont Blanc of those parts, the unknown and unvisited Um Shaumer. Every feature of the extraordinary conformation lies before you.

Near this point is the delicious valley Feiran, with its bushy palms. The road winds through the "Wady Mukatteb" or written valley, and a lofty sandstone cliff stands at the entrance. Its breadth is about 400 yards, and it has at first but little vegetation. After about three hours of travel, however, the valley contracts and the eye is refreshed by the sight of palm groves and verdant gardens. About a mile further the ruins of an ancient village may be seen on a mountain to the left. Half an hour after passing this place we enter another and much larger palm grove, with whose graceful branches the tamarask mingles. A little streamlet winds through the thicket; hoary tottering ruins cling to the rugged acclivities around; and the dark openings of rock-hewn hermitages dot the cliffs overhead.

Ezion-geber is mentioned in the Bible as being on the route of the Israelites on their return from Kadesh (Deut. 11, 8). It was chiefly remarkable afterward from the importance attached to it in the time of Solomon, and from having been the channel by which the treasures of Arabia and India flowed to Syria. It was the possession of this point that led to the wealth of Solomon; and it is curious to observe how every place has successively risen to importance the moment it enjoyed the benefits of the Indian trade. Solomon is said to have "made a navy of ships at Ezion-geber, which is beside Eloth, on the shore of the Red Sea, in the land of Edom." The ships were navigated by the Phœnicians in the service of the Jewish king, whose friendship with Hiram secured for him the aid of those skillful navigators. The city afterwards lost its importance

under the Greeks and Romans. The country thereabout is very rocky and most of the travel is done on dromedaries.

The country of Nubia, though little explored, has been found to contain many ruins of a remote date. Those of Sabooa are of the early epoch of Ramases the Great. They consist of sculptures and monuments and the remains of a temple, the latter of which is built of sandstone, with the exception of the altar, which is excavated in the rock. There are besides eight sculptured sphinxes and two monuments with statues partly sculptured from them. Much of the temple is covered by the drifted sand.

XXXIII.—HEIGHTS OF THE HOLY LAND.

The mountains of Palestine are interesting more from their sacred associations than from their height and grandeur. The Galilean hills show a jagged outline of varied vegetation and high upland hollows; they often contain green basins of table land just below their topmost ridges. In such a position stands Nazareth, encircled by its rounded hills. Mount Tabor towers like a dome above the surrounding country, with an oval plain for its summit. About six miles southward lies the ridge of little Hermon, a desert, shapeless mass. Further south we come upon the elevated tract of Gilboa.

Many of the hills of Samaria are beautifully wooded, and Ebal and Gerizim, its chief mountains, are separated by a

narrow and deep valley, at the end of which lies the white town of Nablous (Shechem) embosomed in verdure. The Judean mountains are rugged, and the ancient terraces have been washed down, leaving the dry rock bare and desolate. Through the wild and melancholy region of the Dead Sea, the mountains seem to have been loosened from their foundations, and rent in pieces by some terrible convulsion, and the look of the whole region is peculiarly savage and dreary. Further south, the desolation increases, the valleys are narrower, and the hills more bare and rugged, till their dreary aspect shows the approach of the desert. The famous mountain group of Sinai lies beyond the desert where the Israelites wandered, in the peninsula between the gulfs of Akabah and Suez. This celebrated region is of the utmost interest, both from its history and its wonderful scenery; and we gather from Stanley and others a somewhat detailed description of its appearance.

The peninsula of Mount Sinai is one of the most remarkable districts on the face of the earth. It combines the three grand features of earthly scenery—the sea, the desert, and the mountains. The great limestone range of Syria, which begins in the north from Lebanon, and extends through the whole of Palestine, terminates on the south in a wide table-land, which reaches eastward far into Arabia Petræa, and westward far into Africa.

At the point where the rocky mass descends from Palestine, another element falls in, which at once gives it a character distinct from mountainous tracts in other parts of the world—namely, that waterless region which extends from the shores of the Atlantic to those of the Persian Gulf, under the familiar name of the Desert. However much the other mountains of the Peninsula vary in form or height, the mountains of the Teh are always alike; always faithful to their tabular outline and blanched desolation. The plateau of the Teh is succeeded by the sandstone mountains, which form the first approach to the highest Sinaitic range, called

by the general Arabic name for a high mountain, the "Tor."

One narrow plain, or belt of sand, divides the table land of the north from these mountains of the south. This brings us to the heights which form the mountain land of the Peninsula. This mass of mountains, rising in their highest points to the height of more than 9,000 feet, forms the southern tower of that long belt or chain of hills, of which the northern bulwark is the double range of Lebanon. The cluster itself consists of two formations—sandstone and granite. To these it owes the depth and variety of color which distinguish it from almost all other mountainous scenery. Sandstone and granite alike lend the strong red hue, which, when it extends further eastward, is, according to some interpretations, connected with the name of "Edom." It was long ago described as of a bright scarlet hue, and is represented in legendary pictures as of a brilliant crimson. But viewed even in the soberest light, it gives a richness to the whole mountain landscape which is wholly unknown in the gray and brown suits of our northern hills.

It was the soft surface of these sandstone cliffs which offered ready tablets to the writers of the so-called Sinaitic inscriptions and engravings, and to Egyptian sculptors; the continuation of the same formation, far away to the southwest, reappears in the consecrated quarries of the gorge of Silsilie, whence were hewn the vast materials for the temples of Thebes. So, too, the granite mountains, on whose hard blocks were written the Ten Commandments of the Mosaic Law, and whose wild rents and fantastic forms reappear in Egypt at the First Cataract, in the grotesque rocks that surround the island of Philae, and in the vast quarries of Syrene.

The general characteristics of these respective clusters may be best given in common. Red, with dark green, are the predominant colors. These colors, especially in the

neighborhood of Serbal, are diversified by the long streaks of purple which run over them from top to bottom. Another feature, less peculiar, but still highly characteristic, is the infinite complication of jagged peaks and varied ridges. It is as if Arabia Petræa were an ocean of lava, which, whilst its waves were running mountains high, had suddenly stood still. This—their union of grandeur with desolation—is the point of their scenery absolutely unrivaled. They are the "Alps" of Arabia—but the Alps planted in the Desert, and, therefore, stripped of the variegated drapery of oak, and birch, and pine, and fir; of moss, and grass, and fern, which, to landscapes of European hills, are almost as essential as the rocks and peaks themselves.

XXXIV.—THE CHRISTIAN TOURISTS.

No aimless wanderers, by the fiend Unrest
Goaded from shore to shore;
No schoolmen turning, in their classic quest,
The leaves of empire o'er.
Simple of faith, and bearing in their hearts
The love of man and God,
Isles of old song, the Moslem's ancient marts,
And Sythia's steppes, they trod.

Where the long shadows of the fir and pine
In the night sun are cast,
And the deep heart of many a Norland mine
Quakes at each riving blast;
Where, in barbaric grandeur, Moskwa stands,
A baptised Sythian queen,
With Europe's arts and Asia's grizzled hands,
The North and East between!

Where still, through vales of Grecian fable, stray
The classic forms of yore,
And beauty smiles, new risen from the spray,
And Dian weeps once more;
Where every tongue in Smyrna's mart resounds;
And Stamboul from the sea
Lifts her tall minarets over burial-grounds.
Black with the cypress-tree!

From Malta's temples to the gates of Rome,
Following the track of Paul,
And where the Alps gird round the Switzer's home
Their vast, eternal wall;
They paused not by the ruins of old time,
They scanned no pictures rare,
Nor lingered where the snow-locked mountains climb
The cold abyss of air!

But into prisons, where men lay in chains,
To haunts where Hunger pined,
To kings and courts forgetful of the pains
And wants of human-kind;
Scattering sweet words, and quiet deeds of good,
Along their way like flowers,
Or pleading, as Christ's freemen only could,
With princes and with powers.

Their single aim the purpose to fulfil
Of Truth from day to day,
Simply obedient to its guiding will,
They held their pilgrim way.
Yet dream not, hence, the beautiful and old
Were wasted on their sight,
Who, in the school of Christ had learned to hold
All outward things aright.

Not less to them the breath of vineyards blown
From off the Cyprian shore,
Not less for them the Alps in sunset shone,
That man they valued more.
A life of beauty lends to all it sees
The beauty of its thought;
And fairest forms and sweetest harmonies
Make glad its way, unsought.

In sweet accordancy of praise and love,
The singing waters run;
And sunset mountains wear in light above
The smile of duty done;
Sure stands the promise,—ever to the meek
A heritage is given;
Nor lose they earth who, single-hearted, seek
The righteousness of Heaven!

XXXV.—THE CITY OF VENICE.

As a general description of Venice, none is more vivid than that which we owe to Rogers:—

"There is a glorious city in the sea,
The sea is in the broad, the narrow streets,
Ebbing and flowing; and the salt sea-weed
Clings to the marble of her palaces.
No track of man, no footsteps to and fro,
Lead to her gates. The path lies o'er the sea,
Invincible; and from the land we went,
As to a floating city—steering in,
And gliding up her streets as in a dream,
So smoothly, silently—by many a dome,
Mosque-like, and many a stately portico,
The statues ranged along an azure sky;
By many a pile, in more than Eastern pride,
Of old the residence of merchant-kings;
The fronts of some, tho' Time had shattered them,
Still glowing with the richest hues of art,
As tho' the wealth within them had run o'er."

It is not necessary to describe minutely the general aspect of this city, familiarized as it is to every one by prose, poetry and painting. Yet Venice to-day is not the proud

city that it was in the time of its maritime supremacy. Sky, air and water continue the same, but all the actors who peopled the scene are gone; for the Venetians have cast aside in despair all the peculiarities that marked them in the days of their independence. The masks, the saltinvauks, the soothsayers, the motley crowds that enlivened the piazza, have followed the fate of Doge and Senator. The gondolas alone linger in their ancient form, gliding as in days of yore on the canals in ghostly silence.

The palaces of Venice may be considered as the monuments of her aristocracy. The number now occupied by the families who reared these sumptuous piles is exceedingly small—not more than one-twentieth. Of the rest, some are turned into hotels, others into public offices. Of their architecture, lightness and fancy are the chief characteristics, though never devoid of needful strength and solidity.

The principal palace and the chief pride of Venice is the St. Mark's. This is the structure in which the old Doges dwelt, and in which are preserved the treasures of architecture and painting, which once made the city as famous as did its maritime successes.

The main part of the palace was built in the tenth century, and the exterior decorations were completed under the Doge Marino Faliero.

The interior of the building was exceedingly damaged by two successive fires in the sixteenth century, in which the great paintings of Titian and others, representing the triumphs of the republic, perished in the flames. The plan of the palace is an irregular square and is surrounded by galleries. The compass and spread of its chambers, the rich adornments, the paintings and every accessory, all unite in breathing, as it were, a character of pride—almost of arrogance. The building is a personification of the State by whose majesty it was inhabited. The library of St. Mark was founded by Petrarch and by Cardinal Bersorione. Some

manuscripts were given by the former; the latter bequeathed to the republic his library, then so choice and rich in Greek manuscripts as to be unequaled in Europe, and these still constitute its chief pride.

An outside view of the palace is very striking; in fact, more so than can be inferred from any picture of it. The long rows of light arches, supported by pillars seemingly so slender, yet so substantial; the rich Gothic windows, and the beauty of the material, all combine to impress its beholder with an elevated sense of Venetian art. Inside of the palace there is a court, or open space, in which is a fountain. A better view of the building as a work of art could hardly be obtained at any other point. The sculpture and the rich tracery of the arches, balustrades and staircases are most beautiful.

The Bridge of Sighs is celebrated in history and poetry. It unites the dungeons of the ducal palace with the public prisons which extend their walls in a long and gloomy range along the narrow canal.

> "That deep descent (thou canst not yet discern
> Aught as it is) leads to the dripping vaults,
> Under the floods, were light and warmth were never!
> Leads to a covered bridge, the Bridge of Sighs;
> And to that fatal closet at the foot,
> Lurking for prey, which, when a victim came,
> Grew less and less, contracting to a span,
> An iron door, urged onward by a screw,
> Forcing out life. But let us to the roof,
> And when thou hast surveyed the sea, the land,
> Visit the narrow cells that cluster there,
> As in a place of tombs. There burning suns,
> Day after day, beat unrelentingly,
> Turning all things to dust, and scorching up
> The brain, till Reason fled, and the wild yell
> And wilder laugh burst out on every side;
> Answering each other as in mockery!"

This gives the darkest side of Venetian policy, and, perhaps is a little exaggerated. It is to be remarked that the

tortures, so thrillingly described above, ended with the end of the Doges of Venice.

XXXVI.—VOLCANOES AND VOLCANIC REGIONS.

A volcano is an opening in the earth's crust, from which come torrents of melted rock, called lava, with steam, flaming gases, hot ashes, and often large red-hot stones. It is usually a vast heap of matter which has flowed out of the earth, and hence is commonly called a burning *mountain*. But the vent may remain for a long time at a low level, and is sometimes formed beneath the sea itself.

An earthquake is a shaking or trembling of the earth's crust by movements of the seas of fire which compose the interior of the globe. The solid ground on which we live, is but a shell, probably about twelve leagues thick, of the great liquid fiery mass, the lava ocean within. This thin crust floating on this fiery ocean is shaken, and sometimes broken, by its currents and waves. When it is shaken, we have an earthquake. When there is an opening into the liquid depths below, so that their melted rocks and heated gases and steam flow forth upon the surface, we have a volcano.

Volcanoes, earthquakes, hot springs, and other heated eruptions to the earth's surface are due to the same general cause, viz., the hot and melted mass of fire beneath the crust on which we live. Considered singly, each volcano is nothing but a mere opening through which a furnace of lava is brought to the surface of the globe. The matter

thrown out is heaped together outside the opening, and forms a cone more or less regular in its shape, which at last attains to considerable size, sometimes becoming many thousand feet high.

One flow of molten matter follows another, and thus is gradually formed the skeleton of the mountain; the ashes and stones thrown out by the crater gather in long slopes; the volcano at the same time grows higher and wider. After many eruptions, it at last mounts up into the clouds, and then into the region of perpetual snow. At the first outbreak of the volcano, the mouth of the opening into the fiery seas below is on the surface of the ground; it is then prolonged like an immense chimney through the center of the cone, and each new river of lava which flows from the summit increases the height of this chimney.

Volcanoes are either central or lie in chains. A central volcano is one that stands alone, separate from all others. A volcanic chain is a line of openings, lying in the same direction, and connected with the same great fissure into the depths of the earth. As, when the burning matter seeks an outlet, the earth is generally cleft open in a straight line, the volcanic openings are frequently distributed somewhat regularly along a fissure, and the heaps of matter they throw out follow one another like the peaks in a mountain chain. In other places, however, the volcanic cones rise without any apparent order on ground that is variously cleft; just as if a wide surface had been softened in every direction, and had thus allowed the molten matter to make its escape, sometimes at one point, sometimes at another.

The common form of volcanoes in which the work of eruption takes place is that of a slope of earth, ashes, and stone, arranged in a round form about the outlet. Whether the volcano be a mere cone of ashes or mud only a few yards high, or rises into the regions of the clouds, vomiting streams of lava over an extent of ten or twenty miles, it none the less keeps to the regular form so long as the erup-

tive action is maintained in the same channel, and the matter thrown out falls equally on the external slopes. The beauty of the cone is increased by that of the crater. The bowl-like mouth, from which the lava boils out, well deserves, from the purity of its outline, its Greek name of "crater," or cup; and the harmony of its curve contrasts most gracefully with the descent of the slope.

The lava, swelling up in enormous blisters about the fissures from which it flows in a current over the slope, is, as we have said, far from being the only substance thrown out of volcanic mountains. When the pent-up vapor escapes from the crater with a sudden explosion, it carries with it lumps of molten matter, which describe their curve in the air, and fall at a greater or less distance on the slope of the cone, according to the force with which they were thrown out. These immense showers, traced in lines of fire on the dark sky, add much during the night-time to the magnificent beauty of volcanic eruptions. In most eruptions, these balls of lava, still in a fluid and burning state, constitute but a small part of the matter thrown out by the mountain. The largest proportion of the stones come from the walls of the volcano itself, which break up under the pressure of the gas, and fly off in volleys mingled with the products of the new eruption. This is the origin of the dust and ashes which some craters vomit out in such large quantities, which, too, are the cause of such terrible disasters.

The chief theater of volcanic action on the earth is in and about the Pacific Ocean. Two-thirds of all the active volcanoes are on the shores or islands of the Pacific. This vast ocean is circled round by a series of volcanic mountains, some ranged in chains, and others very distant from one another, but still maintaining an evident mutual connection, constituting a "circle of fire," which is about 22,000 miles in length. The region of the Sunda Islands, where the earth is so often agitated by violent shocks, may be considered as the great center of the lava streams of our planet. On the kind

of broken isthmus which connects Australia with the Indo-Chinese peninsula, and separates the Pacific Ocean from the great Indian seas, *one hundred and nine volcanoes* are vomiting out lava, ashes or mud in full activity, destroying, from time to time, the towns and villages which lie upon their slope; sometimes, in their more terrible explosions, they ultimately explode bodily, covering with the dust of their fragments areas of several thousands of miles in extent. From Papua to Sumatra, every large island, including, probably, the almost unknown tracts of Borneo. is pierced with one or more volcanic outlets.

The great center of volcanic energy on the earth seems to be about and upon the island of Java. It is, as one has said, "dowered with fire." Notwithstanding its comparatively small size, it has as many volcanoes as all America, and each more terrible than Ætna. All these "giants of fire" differ from one another. They have, too, their separate names; some borrowed from the Hindu gods; others, apparently, the names of the divinities of the island. One yawns with a monstrous crater, 20,000 feet in diameter, where four Ætnas smoke and vomit, at the bottom of a frightful precipice. Another kindles its flames in a strange desert, encrusted by salt springs. One belches periodically; another boils with sulphurous waters, which, even after they have cooled in little lake-like basins, exhibit a feverish agitation. Another pours out a milky flood of ghastly whiteness.

The central crest of Java is formed of a range of volcanic mountains, from 5,000 to 13,000 feet in height, which ends on the east in a series of thirty-eight separate volcanoes, rising into cones from colossal bases. They are all situated on a plain of no great elevation above the sea, and each individual mountain has apparently been formed in entire independence of its neighbors. Most of them are very ancient, and their flanks labor with a rich, dense vegetation. Some are extinct, or only emit smoke; others eject,

with great fury, clouds of sulphurous vapor; the crater of one is filled with boiling water; a few, even of recent years, have broken into violent eruption. Among the most remarkable of the Javanese volcanoes must be named Guevo-Upas, or the Valley of Poison, a half extinct crater, which seems to have originated the fable of the Upas Tree. It measures about 800 yards in circuit, and sends forth a quantity of poisonous gas, which proves fatal to every living thing that ventures within its reach. The valley is said to be strewn with the blanched skeletons of the animals that have fallen victims to its deadly effects.

Northward, the volcanic ring curves gradually, so as to follow a direction parallel to the coast of Asia, to the Kamtchatkan peninsula, which supports fourteen fiery peaks in full activity of eruption. Eastward of the peninsula, the volcanic chain extends along the sea coast of the continent. Mount St. Elias, one of the highest summits in America, often vomits lava from its crater. Farther to the south rises another active volcano, Mount Fair Weather. Next comes the volcanic region of British Columbia. The whole chain of the Cascades, in Oregon, as well as the parallel ranges of the Sierra Nevada and the Rocky Mountains, are overlooked by a great number of volcanoes; but only a few of them continue to throw out smoke and ashes. There a series of volcanoes, arising over a fissure crossing the continent, extends over the whole plateau of Anahuac, from the Southern Ocean to the Gulf of Mexico.

Tolima is the most northern of the active volcanoes of South America, and is also one of the most distant from the sea among all the fire-vomiting mountains. South of Tolima, and the great plateau of Pasto, where there likewise exists a crater, stands the magnificent group of sixteen volcanoes, some already extinct and still smoking, over which towers the proud dome of Chimborazo.

The whole range of the Andes furnishes a grand example of linear volcanoes or a volcanic chain. This is specially

true in the neighborhood of the city of Quito. On the east rises the snow-shrouded summit of Cotopaxi, one of the most superb of active volcanoes, whose dazzling cone soars to a height of 18,775 feet. Close to the city the lofty volcano of Pichincha rises to the greater altitude of 19,553 feet. It was ascended by Humboldt, who approached the very edge of the crater, and saw the curdling lava boiling in the black depths of the dreaded abyss. He had advanced, in the midst of a thick fog, to within a few feet of the rapid slope which descends into the crater, and with difficulty saved himself from plunging headlong into the burning, seething gulf.

South of Sanguay, which is, perhaps, the most destructive volcano on the earth, there are no volcanoes for nearly 1,000 miles. Then the smoking peaks appear again, more or less frequently, extending down the coast to the rocky shores of Terra del Fuego. Within this immense amphitheater of volcanoes, a multitude of those charming isles, which are scattered over the ocean, are also of volcanic origin, and many of them can be distinguished from afar by their smoking and flaming craters. Round the circumference of the Indian Ocean the border of volcanoes is much less distinct than round the Pacific; still it is possible to recognise some of its elements. To the north of Java and Sumatra, the volcanoes of which overlook the eastern portion of the basins of the Indian seas, stretches the volcanic archipelago of the Andaman and Nicobar Islands, in which there are several cones of eruption in full activity,

On the west of Hindostan, the peninsula of Kutch and the delta of the Indus are often agitated. Many mountains on the Arabian coast are nothing but masses of lava; and, if various travelers are to be believed, the volcanic furnace of these countries is not yet extinct. The Kenia, the great mountain of Eastern Africa, has on its own summit a crater still in action—perhaps the only one which exists on this continent. Lastly, a large number of islands which sur-

round the Indian Ocean, on the west and on the south, are nothing but cones of eruption, which have gradually emerged from the bed of the ocean. The Mediterranean is not surrounded by a circle of volcanoes; but there, as elsewhere, it is from the midst of the sea, or immediately on the sea coast, that the burning mountains rise—Ætna, Vesuvius, Stromboli, Epomeo, and Santorin.

XXXVII.—DESTRUCTION OF POMPEII.

Sad city, gayly dawned thy latest day,
And poured its radiance on a scene as gay.
Then mirth and music through Pompeii rung;
Then verdant wreaths on all her portals hung;
Her sons with solemn rite and jocund lay,
Hailed the glad splendors of the festal day.
With fillets bound the hoary priests advance;
And rosy virgins braid the choral dance.
The rugged warrior here unbends awhile
His iron front, and deigns a transient smile;
There, frantic with delight, the ruddy boy
Scarce treads on earth, and bounds and laughs with joy.

What 'vails it, that where yonder heights aspire,
With ashes piled, and scathed with rills of fire,
Gigantic phantoms dimly seem to glide,
In misty files, along the mountain side,
To view with threatening scowl your fated lands,
And toward your city point their shadowy hands?
In vain, through many a night, ye view from far
The meteor flag of elemental war
Unroll its blazing folds from yonder height,
In fearful signs of earth's intestine fight.

In vain Vesuvius groaned with wrath suppressed,
And muttered thunder in his burning breast.
Long since, the eagle from that flaming peak,
Hath soared with screams a safer nest to seek.
Awed by the infernal beacon's fitful glare,
The howling wolf hath left his wonted lair.
Man only mocks the peril. Man alone
Defies the sulphurous flame, the warning groan;
While instinct, humbler guardian, wakes and saves,
Proud reason sleeps, nor knows the doom it braves.

The hour is come. Even now the sulphurous cloud
Involves the city in its funeral shroud,
And, far along Campania's azure sky,
Expands its dark and boundless canopy.
The sun, though throned on heaven's meridian height,
Burns red and rayless through that sickly night.
Each bosom felt at once the shuddering thrill,
At once the music stopped,—the song was still.
None in that cloud's portentous shade might trace
The fearful changes of another's face.
But through that horrid stillness, each could hear,
His neighbor's throbbing heart beat high with fear.

A moment's pause succeeds. Then wildly rise
Grief's sobbing plaints and terror's frantic cries.
The gates recoil; and toward the narrow pass,
In wild confusion, rolls the living mass.
Death!—when thy shadowy sceptre waves away
From his sad couch the prisoner of decay,
Though friendship view the close with glistening eye,
And love's fond lips imbibe the parting sigh,
By torture racked, by kindness soothed in vain,
The soul still clings to being and to pain.
But when have wilder terrors clothed thy brow,
Or keener torments edged thy dart than now,—
When with thy regal horrors vainly strove
The law of Nature and the power of Love?

On mothers babes in vain for mercy call;
Beneath the feet of brothers, brothers fall.
Behold the dying wretch in vain upraise
Toward yonder well-known face the accusing gaze.

Vain is the imploring glance, the frenzied cry,
All, all is fear;—to succor is to die.
Saw ye how wild, how red, how broad a light
Burst on the darkness of that mid-day night,
As fierce Vesuvius scattered o'er the vale
Her drifted flames and sheets of burning hail,
Shook death's wan lightnings from his blazing cone,
And gilded heaven with meteors not its own?

The morn all blushing rose; but sought in vain
The snowy villas and the flowery plain,
The purple hills with marshaled vineyards gay,
The domes that sparkled in the sunny ray.
Where Art or Nature late had deck'd the scene
With blazing marble or with spangled green,
There, streaked by many a fiery torrent's bed,
A boundless waste of hoary ashes spread.

Along that dreary waste, where lately rung
The festal lay which smiling virgins sung,
Where rapture echoed from the warbling lute,
And the gay dance resounded,—all is mute.
Mute!—Is it Fancy shapes that wailing sound,
Which faintly murmurs from the blasted ground;
Or live there still, who, breathing in the tomb,
Curse the dark refuge which delays their doom,
In massive vaults, on which the incumbent plain
And ruined city heap their weight in vain?

Go seek Pompeii now;—with pensive tread
Roam through the silent city of the dead;
Explore each spot, where still, in ruin grand,
Her shapeless piles and tottering columns stand,—
Where the pale ivy's clasping wreaths o'ershade
The ruined temple's moss-clad colonnade;
Or violets on the hearth's cold marble wave,
And muse in silence on a people's grave.

Fear not.—No sign of death thine eyes shall scare.
No; all is beauty, verdure, fragrance there.
A gentle slope includes the fatal ground,
With odorous shrubs and tufted myrtles crowned;

Beneath, o'ergrown with grass, or wreathed with flowers,
Lie tombs and temples, columns, baths, and towers;
As if, in mockery, Nature seems to dress
In all her charms the beauteous wilderness,
And bids her gayest flowrets twine and bloom
In sweet profusion o'er a city's tomb.
Advance, and wander on through crumbling halls,
Through prostrate gates and ivied pedestals,—
Arches, whose echoes now no chariots rouse,—
Tombs, on whose summit goats undaunted browse.

XXXVIII.—ASCENTS OF MOUNT CHIMBORAZO.

The neighborhood of Quito in South America is rich in magnificent mountain scenery, looking out upon thirteen lofty summits. On the east rise the snow-shrouded summits of Antisana, Cotopaxi, an active volcano whose dazzling cone soars to the height of nearly 20,000 feet, and Tungurago. On the west is seen Illinissa, the wreck of an ancient volcano, and close to the city the vast slope of Pichincha; while in the north appears the Cayambi, a beautiful snow-clad mass; while Chimborazo, the loftiest summit ascended by man in America, lies off to the southeast.

It was in the summer of 1802 that Humboldt undertook to plant the standard of geographical discovery on the snowy crest of Chimborazo. Early in the morning, Humboldt and Bonpland quitted the village of Calpi to attack Chimborazo on the southeast side. The summit of its peak is surrounded by plains, which rise one above another in a

series of terraces. These plains, blooming with vegetation, surpass in height the peak of Teneriffe. These plains may be compared to the bed of a dried up lake, and remind the traveler of the steppes of Central Asia. The snowy crest of Chimborazo here reveals itself to the traveler in occasional flashes of white light through the clouds and dense mist that closely embrace it.

At this elevation Humboldt dismounted from his mule, the snow having fallen heavily on the preceding day. Bonpland and Montufar also left behind their horses, to remount them on their return. The vegetation nourished by the meager soil ceased at about 950 feet above the lake Yana-Concha. From that point there was nothing but sombre walls of rocks reared upon foundations of eternal snow. At certain points these rocks arranged themselves in masses of slender and irregular columns, which, from afar, produced all the effect of a forest of trees, dead, but still standing. This avenue of black trunks leads directly to a very narrow ridge, the only road by which the summit could be attained, for the snow lying on the other parts of the mountain was too new and too soft to bear the weight of a single person.

The ridge narrowing as it ascended, offered but a perilous path, and grew steeper and yet steeper. At the elevation of 16,600 feet all the guides abandoned the enterprise, daunted by its difficulties, and only one native, a half-breed of San Juan, remained faithful to the travelers.

Despite the fog which surrounded them, they mounted to a greater altitude than they had hoped for, though not without incurring the most alarming dangers. The ridge (or knife-back, to adopt the expressive word of the Spaniards) along which they passed was only from eight to twelve inches in width. It terminated, on the left, in an inclined plane of thirty degrees, formed of congealed snow, which glittered like a mirror; on the right yawned an abyss, nearly 1,000 feet in depth, wherein the sharp rocks rise vertically like spires or pinnacles. "We moved forward,

however," says Humboldt, "leaning ourselves on this side; the peril appeared to us far more formidable on the left, because we had not there even the slight resource of clinging to the projections of the rock, and the sloping stratum of ice would not have saved us from being buried in the snow."

The difficulty of ascent continued, nevertheless, to increase. The rock became more and more brittle, and the incline so steep that the travelers were fain to crawl on their hands and feet, at the risk of wounding themselves every moment. They advanced in single file, exploring the path before them at every step, for frequently the huge stones, which seemed a compact portion of the soil, became detached, and rolled from under the foot instead of serving it for a support. Everybody then began to feel the mountain sickness—that is, a desire to vomit, and a kind of dizziness. The native who had agreed to share the fatigues of the ascent suffered far more than the European travelers. All bled from the gums and lips, and their eyes were terribly bloodshot.

All at once the veil of clouds which drooped over the crest of Chimborazo seemed torn aside as if by enchantment, revealing its rounded summit. The road growing somewhat wider, the travelers advanced with surer step, when a deep crevasse, 500 feet deep and 70 broad, suddenly arrested them with an insurmountable obstacle. The path was continued beyond, but it was equally impossible to flank the abyss or descend into its shades, on account of the softness of the snow which filled it. They were compelled to abandon all hopes of ascending higher.

It was not possible for them to remain long in this gloomy desert. The fog had again thickened, and neither the peak of Chimborazo nor any of the neighbouring mountains was now visible. The sky grew more and more cloudy, and the adventurers addressed themselves to a speedy downward journey, which they accomplished by the same route, but

not without the greatest precautions. They had scarcely begun their descent when a thick hail, soon followed by snow, came down in heavy showers. The ground was soon covered ankle-deep, a circumstance which rendered the descent doubly perilous. However, about two p. m., Humboldt and Bonpland rejoined their guides, whom they had left with their horses on the borders of the perpetual snow.

In 1831, a French traveler named Boussingault, with his companion, Colonel Hall, attempted this ascent again, with better results at their second trial, the story of which is given below. At 7 a. m. on the 15th December, they set out on their journey. At nine they breakfasted on an enormous block of trachyte, 14,150 feet in altitude, which Boussingault named "The Breakfast Stone." Nineteen hundred feet higher, the mules refusing to proceed on account of the rarefaction of the air, the travelers quitted their steeds and began to climb on foot a slope of rocks resting upon ice, a mass which seemed the result of some recent landslip, a kind of stony avalanche let loose from the mountain summit. Toward noon they traversed a sheet of ice of such extreme slipperiness that they were obliged to excavate holes with a hatchet in which to plant their feet.

Already the air was so rarefied that they stopped at every six or eight paces to draw breath. In this position they made their way to some blocks of trachyte not covered with snow. The "forlorn hope" marched in single file, Boussingault at the head, Colonel Hall and his negro servant placing their feet in Boussingault's footprints. While on the march they preserved an absolute silence, and during their halts exchanged but a few words in a low voice—a very essential precaution in an enterprise of this kind, where nothing is so fatiguing as a sustained conversation, and where the agitation of the air resulting from shouts or other noises will often induce the most terrible avalanches. It was not long before they gained, in this fashion, a ridge

which ascended directly to the summit of Chimborazo. There was little snow on it, but it was dangerous to climb on account of its exceeding steepness.

After incredible gymnastic efforts, they found themselves at the foot of a wall of trachyte nearly perpendicular, and some hundreds of feet in height. Resting themselves in front of this "Red Rock," they quenched their thirst by sucking small lumps of ice. It was then three-quarters past noon. Everybody was frozen with the cold, for the thermometer had sunk to zero. The mist which had enshrouded the travelers finally cleared away, revealing on their right a horrible abyss, and on the left a projecting rock, which formed a kind of observatory. With the assistance of his companions, Boussingault contrived to climb it. Looking around, he ascertained that it was possible to ascend much higher if they succeeded in scaling a slope of frozen snow, which was supported against the opposite side of the Red Rock. He ordered the negro to test the strength of the snow; fortunately it proved of sufficient density to bear them all. Colonel Hall and the negro then passed round the rock, and Boussingault rejoined them by sliding along its icy incline.

At this stage of the journey everybody began to feel the effects of the thin mountain air. Every moment they were compelled to pause, and frequently to prostrate themselves on the ground for a few seconds; but the suffering ceased when they were at rest. Suddenly a new danger was added to their previous trials; the soft snow was no longer more than three or four inches deep; beneath it lay a hard, slippery ice, and to cross it without falling they were compelled to cut holes for their feet. For this purpose the negro went foremost; but his strength was soon exhausted. Boussingault, endeavoring to pass him and take his place, slipped on the very edge of the precipice. Very fortunately, his two companions caught hold of him and held him suspended. All three incurred the greatest danger; but having suc-

ceeded in recovering their place, they bravely resumed their progress along the perilous path. By a last effort they succeeded in reaching, at three-quarters past one p. m., the end of this most formidable ridge.

It proved impossible, however, to advance beyond. They found themselves at the foot of an enormous trachyte rampart, whose upper portion, shrouded in eternal snow, formed the actual summit of Chimborazo. The ridges leading to its crest are the flying buttresses visible from the plain, which seem to support on different sides, as if to steady it, this mighty mass of rock. The ridge at whose extremity stood the three adventurers was scarcely a yard in width. On every side it was surrounded by precipices and rocks, contrasting strangely with the dazzling whiteness of the snow. Long stalactites of gleaming ice, suspended over their heads, might be compared to a cascade suddenly frozen in its descent. The weather was magnificent; the air calm and pure; the eye embraced a boundless horizon; in a word, the entire situation was one of surpassing sublimity.

Up to three o'clock the weather continued beautifully fine and clear. But after this hour, dense clouds began to accumulate at the base of the mountain, and a storm rolled and roared beneath the feet of our ærial spectators. The growl of the thunder rose toward them, but much weakened, as if it came from a distance. It was time to begin the descent, before it was made impossible by snow or cold, and they had no provisions for a sojourn upon the glacier. After descending some thousand feet with exceeding difficulty, they entered the region of the clouds. Lower down a little hail fell. Afterward, as they continued their descent, having regained and remounted their mules, an icy rain mingled with the hail shower. Nevertheless, they arrived safe and sound, about eight o'clock p. m., at the farm of Chimborazo.

XXXIX.—ANCIENT ROME; THE CASTLE OF ST. ANGELO, TRAJAN'S PILLAR, AND THE COLISEUM.

Rome is a city of picturesque ruins, to describe which would fill volumes. A few of the most interesting are briefly sketched below. The Castle of St. Angelo is the celebrated fortress of Papal Rome. It was erected by Hadrian, about the year 130 A. D., on the right bank of the Tiber. It is a massive circular tower, 188 feet in diameter, and standing on a square basement, each side of which is 253 feet in length. It was originally built of Parian marble, and the square blocks fitted into each other without any cement. In height, it rose above the walls of the city, and on the summits were statues of men and horses in Parian marble. It was converted into a fortress about the sixth century, and in the different sieges of the city was battered and its beauty destroyed. There is a church tradition, that while Gregory the Great was offering up a solemn service to avert a pestilence which threatened the city, the Archangel Michael appeared to him in a vision standing on the summit of the fortress, in the act of sheathing his sword to signify that the plague was stayed. The name of St. Angelo was derived from this circumstance, but it was not applied for some centuries afterwards.

About the year 1500 the fortress was reduced to its present form, the base being strengthened by erecting a bulwark between it and the bridge. The covered gallery from the castle to the Vatican was also completed about this time. From the summit of the castle the view is one of the finest on this side of Rome; there is no point from which the gigantic mass of St. Peter's and the Vatican is seen to

so much advantage. The Castle of St. Angelo was for many years the principal state prison of the Papal Government, and has held as many as 150 at a time.

Trajan's Pillar, the most beautiful historical column in the world, was dedicated, as the inscription tells us, to the honor of the Emperor by the Senate and the Roman people (A. D. 114). For seventeen centuries this noble column has been regarded as a triumph of art; and there can be no doubt that the great architect, Apollodonis, in constructing such a monument to his benefactor, created at the same time the best memorial of his genius. It is composed of thirty-four pieces of white marble, nine of which form the basement, and twenty-three the shaft. The remaining two form the moulding and capital. The pedestal is covered with bas-reliefs of warlike instruments, shields and helmets, and bears an inscription supported by two winged figures. These matchless sculptures are in a high state of preservation and in the best taste. Their nature will be better appreciated by the simple fact that they contain no less than 2,500 human figures, besides a large number of horses, fortresses, etc, than by any minute description. In the interior is a winding staircase of 184 steps, lighted by 42 loop-holes, and leading to the summit, on which stood a colossal statue of Trajan holding the gilded globe which is supposed to have contained his ashes. A statue of St. Peter, in bronze, 19 feet high, was placed in its stead by Sextus V. The height of the column, exclusive of the statue, is 126 feet.

There is no monument of ancient Rome which artists and poets have made so familiar to readers of all classes as the Coliseum. The amphitheater was founded by Vespasian, A. D. 72. The gladiatorial spectacles of which it was the scene for nearly four hundred years, are matters of history. It is said that, at its dedication, 5,000 wild beasts were slain, and the games, in honor of the event, lasted 100 days. During the Christian persecutions, the amphitheater

was the scene of fearful barbarities. The first mention of the name Coliseum in connection with it, occurs in the writings of the Venerable Bede, who records the famous prophesy of the Anglo-Saxon pilgrims:

> "While stands the Coliseum, Rome shall stand;
> When falls the Coliseum, Rome shall fall;
> And when Rome falls, the World."

The amphitheater is built in a circular form and consisted of four stories; the three lower being composed of arches supported by half columns, and the fourth being a solid wall pierced with forty square windows. The height of the outer wall is stated to be 157 feet, and its diameter about 600 feet.

In its interior, of course, the center is occupied by the arena. Around this were arranged, upon walls gradually sloping down towards the center, the seats for the spectators. There were four tiers of seats corresponding with the four external stories. The amphitheater is said to have a capacity of holding 87,000 people.

The scene from the summit of the Coliseum is one of the most impressive in the world, and there are few travelers who do not visit the spot by moonlight in order to realize the magnificent description in "Manfred," the only description which has ever done justice to the wonders of the Coliseum:

> "I do remember me, that in my youth,
> When I was wandering,—upon such a night
> I stood within the Coliseum's walls,
> 'Midst the chief relics of almighty Rome;
> The trees which grew along the broken arches
> Waved dark in the blue midnight, and the stars
> Shone through the rents of ruin; from afar
> The watch-dog bayed beyond the Tiber; and
> More near from out the Cæsar's palace came
> The owl's long cry, and, interruptedly,
> Of distant sentinels the fitful song
> Began and died upon the gentle wind.

Some cypresses beyond the time-worn breach
Appeared to skirt the horizon, yet they stood
Within a bow-shot where the Cæsars dwelt,
And dwell the tuneless birds of night, amidst
A grove which springs through leveled battlements,
And twines its roots with the imperial hearths,
Ivy usurps the laurel's place of growth ;—
But the gladiator's bloody circus stands,
A noble wreck in ruinous perfection!
While Cæsar's chambers and the Agustine halls
Grovel on earth in indistinct decay,—
And thou didst shine, thou rolling moon, upon
All this, and cast a wide and tender light,
Which softened down the hoar austerity
Of rugged desolation, and filled up,
As 'twere anew, the gap of centuries ;
Leaving that beautiful which still was so,
And making that which was not, till the place
Became religion, and the heart ran o'er
With silent worship of the great of old!—
The dead but sceptered sovereigns who still rule
Our spirits from their urns."

XL.—INDIAN PAGODAS, TEMPLES AND RUINS.

The style of architecture is essentially the same in all Hindoo temples. The body of the structure is square and massive, enclosing the shrine of the god. From a cornice of great breadth, and often covered with sculptured ornaments, rises a tall spire of parabolic outlines, which has the look of being formed by smaller spires.

At Tinnevelly there is a magnificent temple, now partly ruined, the entrance gateway of which gives an example of these great pyramidal towers. This richly adorned structure is probably over five hundred years old, though it has been so frequently and carefully whitewashed that there is some difficulty in deciding the age of the temple.

On the island of Seringham are two celebrated pagodas, that have always commanded the veneration of the Hindoos. The principal of these has an outer wall nearly four miles long, and with four great entrances or gateways.

The ancient city of Vijianuggur (usually pronounced Beejnuggur), or City of Victory, shows some of the grandest ruins of India. To attempt to give any description of this enormous ruined city seems hopeless.

Among the most extraordinary relics of India are the huge monolith raths of Mahavellipore. It is doubtful if the world can produce anything more remarkable than the monoliths here to be found. The more we examine them the greater is our astonishment at the amount of time and labor spent in forming these marvelous structures in such a desolate and dreary spot.

One of the Hindoo legends, accounting in a manner for the unfinished state in which nearly every part of these structures is now left, is as follows: Many hundred years ago a certain king in some distant land being about to build a large temple, brought together some 1,200 stone-cutters, and attempted to force them to work in the erection of his temple; they all rebelled, and escaping with their wives and families to the seashore, seized some boats, in which they put to sea, and were cast by the winds and waves ashore here. Not caring to remain idle, and to keep themselves in practice in their handicraft, they set to work to carve the rocks into the temples, caves, &c., here to be found. They were so occupied for twelve years, when the king, hearing where they had gone to, came with an army and fleet to take them back to his kingdom, and thus the natives account for the fact, which cannot fail to be obvious to all, namely, that the work, by whomsoever undertaken, must have been most suddenly stopped long before it was completed.

XLI.—WATER-FALLS IN THE YOSEMITE VALLEY.

Among the beauties of this strange and lovely valley, not the least are its wonderful water-falls. Their height, slenderness, and the sublime scenes around, conspire to invest them with peculiar interest. One of the finest is the Bridal Vail Fall, which is formed by the creek of the same name, which rises a few miles east of Empire Camp, runs through the meadows, and finally falls over the cliff, on the west side of Cathedral Rock, into the Yosemite, in one leap of 630 feet. The water strikes here on a sloping pile of loose rocks, down which it rushes in a series of cascades for a perpendicular distance of nearly 300 feet more, the total height of the edge of the Fall above the meadow at its base being 900 feet. The effect of the Fall, as everywhere seen from the Valley, is as if it were 900 feet in vertical height, its base being concealed by the trees which surround it. The quantity of water in the Bridal Vail Fall varies greatly with the season. In May and June the amount is generally the greatest, and it gradually decreases as the summer advances. The effect, however, is finest when the body of water is not too heavy, since then the swaying from side to side, and the waving under the varying pressure of the wind, as it strikes the column of water, is more marked. As seen from a distance at such times, it seems to flutter like a white vail, producing an indescribably beautiful effect. The name Bridal Vail is poetical, but fairly appropriate.

The Yosemite Fall is formed by a creek of the same name, which heads on the west side of the Mount Hoffman Group, about ten miles northeast of the Valley. The ver-

tical height of the lip of the fall above the Valley is, in round numbers, 2,600 feet. The lip, or edge of the fall, is a great, rounded mass of granite, perfectly smooth, on which it is found to be a very hazardous matter to move. A difference of a hundred feet in a fall of this height would be entirely unperceived by most eyes. The fall is not in one perpendicular sheet. There is first a downright descent of 1,500 feet, when the water strikes on what seems to be a projecting ledge, but which, in reality, is a shelf or recess, almost a third of a mile back from the front of the lower portion of the cliff. From here the water finds its way, in a series of cascades, down a descent equal to 626 feet, and then gives one final plunge of about 400 feet to the rocks at the base of the cliff.

One of the most striking features of the Yosemite Fall, as in the Bridal Vail Fall, is the swaying of the upper portion from one side to the other, under the influence of the wind, which acts with immense force on so long a column. The descending mass of water is too great to allow of its being entirely broken up into spray, but it widens out very much towards the bottom, probably as much as 300 feet at high water, the space through which it moves being fully three times as wide.

The river descends, in two miles, over 2,600 feet, making, besides innumerable cascades, two grand falls, which are among the greater attractions of the Yosemite, not only on account of their height and the large body of water in the river during most of the season, but also on account of the stupendous scenery in the midst of which they are placed. The first fall reached in ascending is the Vernal, a perpendicular sheet of water with a descent varying greatly with the season. The path up the side of the valley, near the Vernal Fall, winds around and along a steeply sloping mountain-side, always wet with the spray, and, consequently, rather slippery in places. A remarkable parapet of granite runs along the edge of the Vernal Fall for some

distance, just breast-high, and looking as if made on purpose to afford the visitor a secure position from which to enjoy the scene.

The Nevada Fall, the last great one of the Merced River, is, in every respect, one of the grandest water-falls in the world, whether we consider its height, the purity and volume of the river which forms it, or the stupendous scenery by which it is surrounded. The fall is not quite perpendicular, as there is near the summit a ledge of rock which receives a portion of the water and throws it off with a peculiar twist, adding much to the general picturesque effect.

There are numbers of other falls, each surpassing in loftiness and beauty anything else known on the globe, but the above are some of the most noted, and will illustrate the superiority of some of our American scenery to much that has become famous in other lands.

XLII.—THE BIG TREES OF CALIFORNIA.

These giants of the vegetable kingdom were first discovered in the year 1852. The genuine Big Tree differs but little from its brother, the Redwood, the difference consisting for the most part in its size, its more limited range, and the fact of its being found in less numbers at any one place. A few of the Redwood may be found just across the border in Oregon, but the Big Tree has never been found outside of California, and probably never will be.

In size the Redwood falls but little below the Big Tree, and in general effect the forests of Redwood surpass even the groves of Big Trees. Let one imagine an entire forest, extending as far as the eye can reach, of trees of from eight to twelve feet in diameter, and from two hundred to three hundred feet high, thickly grouped, not branching until they reach from one hundred to one hundred and fifty feet above the ground, and then forming a dense canopy which shuts out the view of the sky, the contrast of the bright cinnamon-colored trunks with the sombre, deep, yet brilliant green of the foliage, the utter silence of these forests where often no sound can be heard except the low thunder of the breaking surf of the distant ocean,—let one picture a scene like this, and he may perhaps receive a faint impression of the majestic grandeur of the Redwood forests of California.

The Big Trees occur always in groves, or scattered among a much larger number of trees of other kinds. The area in which they are found may be roughly stated at about fifty square miles, most of this being in one patch, between King's and Kaweah rivers. The most extensive grove yet found is that called Calaveras Grove. The exact measurement and age of one of the largest trees of this grove was made possible by cutting it down. This was done soon after the grove was discovered, and is said to have occupied five men during twenty-two days. The felling was done by boring through the tree with pump-augurs, and it was no small matter to persuade the trunk to fall, even after it had been completely cut from its base. It was done, however, by driving in wedges on one side, until the ponderous mass was bent over enough, which was not done until after three days of hard labor. Its diameter was found to be twenty-four and a half feet without the bark, which was eighteen inches thick. Its age was computed by the rings extending from its center, which denoted its annual growth, to be about thirteen hundred years.

The largest tree in the lower, or Mariposa grove, is the

one known as the "Grizzled Giant," which is ninety-three feet and seven inches in circumference, and thirty feet in diameter, at its base. The tree is very much injured and decreased in size by burning, yet some of its branches are fully six feet in diameter, or as large as the largest elms in the Connecticut valley. The "Grizzled Giant" has long since passed its prime, and has the battered and war-worn appearance conveyed by its name.

One tree, which is fallen and partially rotted away, is appropriately called the "Father of the Forest," since its dimensions are the largest of any yet discovered. It measures four hundred and fifty feet in length, and its diameter at the base is thirty-seven and a half feet. On account of its rottenness its age cannot be computed, but it must be considerably greater than that of the tree mentioned above, whose age is thirteen hundred years.

XLIII.—SCENES IN THE FAR WEST.

This portion of the United States has received a great impetus in settlement and is becoming better known, through the rapid extension of facilities for travel afforded by the Union Pacific Railway. This great thoroughfare connects almost in a direct line the two important points of San Francisco and Chicago. Other roads are being projected north and south of this, which will, in time, bring the whole of this vast and hitherto isolated region into communication with the sea both ways. The history of the

construction of the Union Pacific Railway is one of unusual interest, from the magnitude and importance of the work. Its passage of the Rocky Mountains was a bold and successful feat. Here, as well as at other parts of the route, the company have been obliged, during the winter months, to erect sheds in order to prevent the snow from blocking up the track. These long buildings, sometimes stretching for miles in a direct line, present a curious appearance.

The scenery along the railway is varied, of course, from the different regions through which it passes. Along the plains of the Missouri valley there is little to break the monotony of the landscape; but in the mountains the scenery often attains a grandeur and magnificence. Among the curiosities of this region may be mentioned Lighthouse Rock, an immense mass rising to a height of two hundred and fifty feet. A tuft on its summit resembles somewhat the top of a lighthouse, whence its name.

Salt Lake City, the head-quarters of that class of religionists known as Mormons, is situated on the Jordan river, which connects the two lakes of Utah. It was founded in 1847, and is laid out in fine streets and squares, the latter of which are well supplied with trees and fountains. The houses are all built of *adobe*, or sun-dried bricks. Its population is nearly 20,000, of which three-fourths are Mormons. Latterly, actions have been commenced in the United States Courts of Utah against leading Mormons on account of their practice of polygamy; and there is little doubt that ere long this feature of their religion will be abolished.

Among the curiosities of California must be included its celebrated Thermal Springs, situated in a gorge of the valley of Napa, and called the "Devil's Cañon." The narrow ravine, filled with vapor rising in eddies, opens on the side of a red and bare mountain, that one might fancy was scorched by fire. The entry to the ravine follows the course of a rivulet, the boiling waters of which are mingled with a chemical substance horrible to the taste. Innumerable

springs—some sulphurous, others charged with alum or salt—gush out at the base of the rocks. There are both warm and cold springs, and hot and boiling; some are blue and transparent, others white, yellow, or red with ochre. In a cavity which is called the "Sorcerer's Caldron," a mass of black and fetid mud boils up in great bubbles.

Higher up, the "Devil's Steamboat" darts out jets of gaseous matter, which issue puffing from a wall of rock; *fumerolles* may be seen by hundreds on the sides of the mountain. All these various agents either murmur, whistle, rumble or roar, and thus a tempest of deafening sounds incessantly fills the gorge. The burning ground, composed of a clayey mud—in one spot yellow with sulphur, and in another white with chalk—gives way under the feet of the traveler who ventures on it, and gives vent to puffs of vapor through its numberless cracks. The whole gorge appears to be the common outlet of numerous reservoirs of various mineral waters, all heated by some great volcanic furnace.

XLIV.—THE RIVER SACO.

Forth from New Hampshire's granite steeps
Fair Saco rolls in chainless pride,
Rejoicing as it laughs and leaps
Down the gray mountain's rugged side;
The stern, rent crags, and tall, dark pines,
Watch that young pilgrim passing by,
While close above them frowns or shines
The black, torn cloud, or deep-blue sky.

Soon, gathering strength, it swiftly takes
Through Bartlett's vales its tuneful way,
Or hides in Conway's fragrant brakes,
Retreating from the glare of day;
Now, full of vigorous life, it springs
From the strong mountain's circling arms,
And roams in wide and lucid rings,
Among green Fryeburg's woods and farms.

Here, with low voice, it comes and calls
For tribute from some hermit lake;
And here it wildly foams and falls,
Bidding the forest echoes wake:
And sweeping on, it runs its race,
By mound and mill, in playful glee;
Now welcomes with its pure embrace
The vestal waves of Ossipee.

At last, with loud and solemn roar,
Spurning each rocky sledge and bar,
It sinks where, on the sounding shore,
The broad Atlantic heaves afar.
There, on old ocean's faithful breast,
Its wealth of wares it proudly flings;
And there its weary waters rest,
Clear as they left their crystal springs.

Sweet stream! it were a fate divine,
Till this world's tasks and toils were done,
To go, like those bright floods of thine,
Refreshing all, enslaved by none;
To pass through scenes of calm and strife,
Singing like thee, with holy mirth,
And close in peace a varied life,
Unsullied by one stain of earth.

XLV.—THE WHITE MOUNTAINS.

One of the most interesting features of the White Mountains in New Hampshire is Franconia Notch, a pass about five miles in extent between Mount Lafayette and Cannon. Its width is about half a mile; and the narrow district thus enclosed contains more objects of interest to the masses of travelers than any other region of equal extent within the compass of the usual White Mountain town. In the way of rock sculpture and water-falls, it is a huge museum of curiosities. There is no spot usually visited in any of the valleys where the senses are at once impressed so strongly and so pleasantly with the wildness and freshness which a stranger instinctively associates with mountain scenery in New Hampshire. There is no other spot where the visitor is domesticated amid the most savage and startling forms in which cliff and forest are combined. And yet there is beauty enough intermixed with the sublimity and the wildness to make the scenery permanently attractive, as well as grand and exciting.

Large portions of the mountain wall opposite the hotel are even more abrupt than in the great Notch; but it bends in a very graceful curve; the purple tinge of the rocks is always grateful to the eye; and the forest foliage that clambers up the sharp acclivities, fastening its roots in the crevices and resisting the storms and torrents, relieves the sombreness of the bending battlement by its color, and softens its sublimity with grace.

The great curiosity of the Franconia Notch is the "Great Stone Face," or, as it is often called, the "Old Man of the Mountain," that hangs upon one of its highest cliffs. If its

inclosing walls were less grand, and its water gems less lovely, travelers would be still as strongly attracted to the spot, that they might see a mountain which breaks into human expression,—a piece of sculpture older than the sphinx,—an intimation of the human countenance, which is the crown of all beauty, that was pushed out of the coarse strata of New England thousands of years before Adam. The marvel of this countenance, outlined so distinctly against the sky at an elevation of 1,500 feet above the road, is greatly increased by the fact that it is composed of three masses of rock which are not in perpendicular line with each other.

On the brow of the mountain itself, standing on the visor that covers its face, or directly underneath it on the shore of the little lake, there is no intimation of any human features in the lawless rocks. Remove but a few rods either way from the guide-brand on the road, when you are advised to look up, and the charm is dissolved.

The whole profile is about eighty feet in length; and of three separate masses of rock, which are combined in its composition, one forms the forehead, another the nose and upper lip, and the third the chin. The best time to see the profile is about four o'clock in the afternoon of a summer day. The expression is really noble, with a suggestion partly of fatigue and melancholy. He seems to be waiting for some visitor or message. Those who can see this rock with a thunder-cloud behind, and a slaty scud driven thin across it, will carry away the grandest impressions which it ever makes on the beholders' mind. And many, doubtless, have looked up with awe to the great Stone Face, with a feeling that it possessed a higher expression of infinite power and art than any mortal countenance.

In the Saco valley the Notch has attained a deserved reputation for the wildness and majesty of its situation. In the Notch you stand between walls two miles long, and there are no ragged, nervous lines of rock running down

from a cloud, or lying sharp against the blue distance. But to know the Notch truly, one must take a drive to the top and look down into it. A man stands then as an ant might stand on the edge of a huge tureen. He is lifted twelve hundred feet over the gulf, on the brink of an almost perpendicular wall, and sees the mountains rising on either hand, eight hundred feet higher still.

Those who love mountain cascades will find a new temptation to a visit to the Notch. The Flume and the Silver Cascade, pouring down from Mount Webster, have gladdened the eyes of all visitors to the hotel, for they are visible from the road. The Flume is an exceedingly narrow gorge, with perpendicular walls, so close that two could hardly walk abreast in its bed, down which murmurs a little stream to the Saco, or some one of its tributaries. At one point in the Flume is a huge boulder, caught in its jaws while trying some time to fall. The source of the Saco, not far from here, is a wildly romantic spot among the hills, and carefully guarded by a thick growth of pine and oak.

XLVI.—THE GRAY OLD MAN OF THE MOUNTAIN.

Where a tall post beside the road displays
  Its lettered arm, pointing the traveler's eye
Through the small opening mid the green birch trees,
  Toward yonder mountain summit towering high,
There pause. What doth thy anxious gaze espy?
  A crag abrupt hung from the mountain's brow!
Look closer! scan that bare, sharp cliff on high!
  Aha! the wondrous shape bursts on thee now—
  A perfect human face,—neck, chin, mouth, nose, and brow

And full and plain those features are displayed,
Thus profiled forth against the clear, blue sky;
As though some sculptor's chisel here had made
This fragment of colossal imagery,
The compass of his plastic art to try.
From the curved neck up to the shaggy hair
That shoots on pine trees from the head on high,
All, all is perfect; no illusions there
To cheat the expecting eye with fancied forms of air

Most wondrous vision! the broad earth hath not,
Through all her bounds, an object like to thee,
That traveler e'er recorded; nor a spot
More fit to stir the poets phantasy.
Gray Old Man of the Mountain, awfully
There from the wreath of clouds thou dost uprear
Those features grand, the same eternally!
Lone dweller 'mid the hills! with gaze austere
Thou lookest down, methinks, on all below thee here!

And curious travelers have descried the trace
Of the sage Franklin's physiognomy
In that most grave and philosophic face.
If it be true, Old Man, that we do see
Sage Franklin's countenance, thou, indeed, must be
A learned philosopher most wise and staid,
From all that thou hast had a chance to see,
Since earth began. Here thou, too, oft hast played
With lightnings, glancing round thy rugged head.

XLVII.—LONDON SIGHTS AND SCENES.

In speaking of particular localities in the metropolis, we shall necessarily be limited to a very few of the most remarkable.

Trafalgar square, called by Sir Robert Peel the finest site in Europe, is situate at the turning-points from Westminster Bridge and various parts of the West End to the city. It is decorated with a superb fountain; here also is the famous Nelson monument. The square is surrounded by some of the finest buildings in London, and, from its proximity to the club-houses and the houses of Parliament, is one of the most busy localities in the metropolis.

Charing Cross, in the vicinity, is almost as important a center for its busy crowds as Trafalgar, and during what is called "the season," cabs start thence in all directions in such numbers that Charing Cross has often been called the center of cabs.

The royal palaces, are Buckingham Palace, the only town residence of the sovereign; St. James' in Pall Mall, portions of which are inhabited by the Cambridge branch of the royal family; and Kensington Palace, in which Queen Victoria was born.

Buckingham Palace, from its cost and magnitude, commands attention. The body of the palace forms a parallelogram containing an inner court. The internal arrangements are unworthy of royalty, the corridors being dark and low-roofed. The grounds behind the palace are beautifully laid out, and the west side of the building, which fronts them, is much admired.

The palace of Westminster, occupying the site on the banks of the Thames of the old houses of Parliament, is a most imposing structure. It has an entire length of 900 feet, and its southern end is surmounted by the great Victoria tower, 300 feet high. On the river front the richness of tracery and endless variety of minute and labored ornament is astonishing to a close observer. Built of a Yorkshire stone, this front rests on a foundation of granite, and has a long terrace nearly on a level with high water. The majestic proportions of this fine structure are very imposing, and the historical associations connected with it give it additional interest.

The Tower of London, so intimately connected with the history of England itself, was begun by William the Conqueror, in 1078. For many centuries this fortress was used as a palace and a state prison, and contained the chief mint of the kingdom; but it is no longer used for any of these purposes. The only portions to which the public are admitted are the armories, the jewel-house, containing the regalia and coronation plate, and the Beauchamp Tower, in which Lady Jane Grey was confined.

Crystal Palace is the name of the structure in which the great exhibition of works of industry of all nations was held in London, in 1851. This was taken down and a new and permanent building has since been erected, at a cost of about $8,000,000. It has splendid gardens and water-works, and arrangements for musical and other public entertainments, and containing, besides industrial exhibitions, an extensive museum of ancient and mediæval art, and specimens in all branches of botany, zoology, and other departments of science.

The town of Greenwich, situated about five miles southeast of London, has for its great objects of attraction, its hospital for aged and disabled seamen, and its observatory, whence longitude is generally reckoned. The hospital, first opened in 1705, occupies the site of an ancient royal palace which was the birth-place of Henry VIII and Queen Elizabeth. This institution generally supports about 3,000 pensioners in the building.

XLVIII.—PARIS.

Within the last few years, this city has undergone so many changes of estate as to be at present scarcely recognizable. Many of the old thoroughfares and places of resort have been disfigured or destroyed by the hand of war, and those that remain are sadly altered; yet we hope that ere long Paris will reappear in the garb which has for so long a time delighted the civilized world. In describing the principal features of the city, we shall speak of them as they were before the Prussian invasion, when Paris was resplendent—the seat of beauty in architecture, as well as of gaiety and fashion in society. Hereafter will be found a sketch of Paris as it appeared shortly after the siege.

The streets of Paris are in themselves a wonder, not more from the fine buildings with which they are lined, and the cleanliness in which they are kept, than from the gay throngs of equipages and pedestrians that frequent them at all hours of the day. The Rue de Rivoli has acquired a wide reputation from its length and beauty. It is one of the great arteries of Paris, and extends for two miles in one straight line, connecting the utmost limits of the Tuileries with the Rue St. Antoine. It was begun in 1802, and continued with a uniform system of arcades to the northern pavilion of the Tuileries, thus opening the noble garden of the palace to public view on the northern side.

The menacing prospect of serious danger to the State, roused the Government of 1848 to provide work for the laboring classes at any cost, and it resolved to continue the Rue de Rivoli. During the reign of Louis Napoleon, this street has been much prolonged and the arcades extended. In the building of the street a vast sum of money has been expended, and over 1,000 houses demolished.

Among other famous architectural works, the Pont Neuf, a bridge connecting one part of the city with an island in the Seine, is conspicuous. It was begun in the reign of Henry III, in the year 1578, and was reconstructed in 1852. It consists of two parts: the northern one contains seven circular arches; the southern one only five. Its total length is 1,020 feet, and its breadth 78. It has semi-circular recesses, with stone seats, and 42 ornamental lamp-posts. On the square area, at the junction of the two parts of the bridge, a bronze statue was erected to Henry IV by his widow, Maria de Medicis. It consisted of a bronze horse, surmounted by a figure of the king. This was afterward destroyed, and the present statue erected by Louis XVIII. The height of this beautiful statue is 14 feet, and its weight 30,000 lbs. The pedestal of white marble is approached by seven steps of the same, running all round and enclosed by a railing.

The merchants and stock-brokers of Paris meet for the transaction of business in a fine building called the Bourse. Such meetings were first regularly held in 1724, at the residence of Law, the originator of the great South Sea humbug. The present building was erected in 1808. It is a parallelogram of 212 feet by 126, and surrounded by sixty Corinthian columns, the whole approached by a flight of steps extending along the entire western front. The roof is entirely of iron and copper. At the corners of the edifice are four statues, representing Commerce, Justice, Industry, and Agriculture. The hall where the merchants and stock-brokers meet will contain 2,000 persons, and is paved entirely with marble.

The palace of the Corps Legislatif was first erected in 1722 for a private residence, but was appropriated during the revolution of 1789 by the Council of Five Hundred for their meetings, who in turn rendered it up to the Corps Legislatif. An iron railing, with two gates, gives access to the edifice, the front of which consists of twelve Corinthian

columns resting on a broad flight of steps. At their foot are colossal statues of Justice and Prudence, eighteen feet high. The Legislative hall is of a semi-circular form, and is ornamented with twenty-four columns of single blocks of white marble, having capitals of gilt bronze. The President's chair is situated in the center of the axis of the semi-circle, around which rise in gradation five hundred seats for the members. The whole is fitted up in crimson velvet and gold.

XLIX.—PARIS AFTER THE WAR.

The great events of the Franco-Prussian War of 1870 are well-known, as are also the long train of terrible circumstances following the first defeat of the French army. The declaration of the Republic and the ravages of the Commune, occupied for six months the attention of the world.

An eye-witness thus describes the appearance of the city after the war. The aspect of the Boulevards is the strangest sight imaginable. I followed them from the Porte St. Martin to the Rue de la Paix. Strewn over the streets were branches of trees and fragments of masonry that had been knocked from the houses. Bricks and mortar, torn proclamations, shreds of clothing half concealing blood stains, were now the interesting and leading features of that fashionable resort; foot-passengers were few and far between; the shops and *cafés* hermetically closed, except-

ing where bullets had made air-holes; and during my whole afternoon's promenade, I only met three other carriages beside my own. The Place de l'Opéra was a camping-ground of artillery, the Place Vendôme a confusion of barricades guarded by sentries, and the Rue Royale a mass of *débris*. Looked at from the Madeleine, the desolation and ruin of that handsome street were lamentable to behold.

The Place de la Concorde was a desert, and in the midst of it lay the statue of Lille, with the head off. Near the bridge were twenty-four corpses of insurgents, laid out in a row, waiting to be buried under the neighboring paving-stones. To the right, the skeleton of the Tuileries reared its gaunt shell, the frame-work of the lofty wing next the Seine still standing; but the whole of the roof of the central building was gone, and daylight visible through all the windows, right into the Place du Carrousel.

I passed the Corps Législatif, also uninjured by fire, but much marked by shot and shell, and so along the whole way to the Mint, at which point General Vinoy had established his head-quarters. At the corner of the Rue de Bac, the destruction was something appalling. The Rue de Bac is an impassable mound of ruins, fifteen or twenty feet high, completely across the street, as far as I could see.

At this point, in whichever direction one looked, the same awful devastation met the eye; to the left, the smouldering Tuileries, to the right, the long line of ruin where the fire had swept through the magnificent palaces, and overhead again, to-day, a cloud of smoke, more black and abundant than even yesterday, incessantly rolling its dense volumes from behind Notre Dame, whose two towers were happily standing uninjured. In another direction the Arsenal was also burning. On the other side of the river were the smoking ruins of the Théatre Châtelet, and the Hôtel de Ville. A large part of the Palais Royal is burned.

Of the public buildings burned, some, identified with the

past history of the nation, cannot be replaced. Among them, the Tuileries takes rightfully the first place. Its history extends over centuries. The exterior of the palace was grand and imposing. The extreme length of the front was 336 yards; its breadth, 36 yards. All that wealth and taste could accomplish was employed, under successive monarchs, to embellish its interior. The Emperor's private apartments were gorgeously decorated. The theater could accommodate 800 spectators, and was used as a supper-room when balls were given at Court. The Chapel of the Palace was rather plain, and had a gallery and ceiling resting upon Doric columns of stone and stucco. The Peace Saloon was used as a ball-room, and was 140 feet long by 35 feet broad, and contained splendid statuary. The Hall of the Marshals was remarkable for its splendor. The names of the great battles fought under the First Empire were inscribed on its walls, and around the hall were busts of distinguished generals and naval commanders, while portraits of the great marshals of France adorned its panels. The furniture was ornamented with green velvet and gold. This was used as a ball-room on state occasions.

Four other magnificent halls were conspicuous features. The Throne Hall, a splendid apartment, contained the imperial throne. The hangings were of dark velvet of Lyons manufacture, with palm leaves and wreaths wrought in gold. The throne, facing the windows, was surmounted by a canopy of the same, and the drapery depending from it was studded with bees, embroidered in gold.

The Louvre, which fortunately was only partially destroyed, was mainly constructed by Louis XIV, but was left in a comparatively unfinished condition until 1802, when Napoleon resumed the works, and under him the Louvre was finished and the surrounding streets and places cleared. Its internal arrangements were made principally by Charles X and Louis Philippe. Since the time of Louis XV, it has been devoted to the reception of the various museums

of the fine arts, and was occasionally used for great ceremonies of state. The eastern front of the Louvre was one of the finest pieces of architecture of any age. The grand colonnade was composed of 28 coupled Corinthian columns, fronting a wide gallery. The central part of the building, forming the gateway, was crowned by a pediment, the raking cornices of which were each of a single piece. The gates themselves, made by order of Napoleon, were of magnificently worked bronze. This front was 528 feet long and 85 feet high. The southern front was decorated with 40 Corinthian pilasters, and, like the eastern, had a richly adorned pediment over the central compartment. The northern front consisted of a central and two side pavilions projecting from the main body.

Almost all the interior of this palace was devoted to the museums for which it was so celebrated. These consisted of magnificent apartments, filled with the rarest and most valuable antiquities and artistic productions that France could secure through the reigns of successive sovereigns, who made additions to it a subject of pride and emulation. Besides these, however, there was a library of great value, containing two choice collections of American books, and books on the discovery of this country, and many other valuable works, and vast collections from America, China, India, and Europe, which were entirely destroyed.

The Hôtel de Ville was the place of assembly of the Municipality of Paris, and was erected and embellished at an expense of upward of $4,000,000. It contained several magnificent state apartments, decorated in a highly artistic manner, and furnished at immense expense. All the revolutions of France were associated with the Grand Hall of this building. From it Louis XVI spoke to the populace with the cap of liberty on his head. It was in this edifice also that Robespierre held his council and afterward attempted to destroy himself; and it was at one of these

windows that General Lafayette embraced Louis Philippe and presented him to the people.

The Palais Royal, which has shared in the general destruction, was one of the most remarkable palaces of Paris, and was fitted up in splendid style for Prince Jerome and Prince Napoleon. Historical associations of deep interest were connected with it.

One of the most absurd and insane acts of the Commune was the destruction of the Napoleon Column in the Place Vendôme. The following graphic description is by an eye-witness of the scene:

The street was so crowded that it was with the greatest difficulty that I and two friends elbowed our way through the densely packed masses of people. No one was admitted on the Place Vendôme itself without a special ticket issued by the Committee of Public Safety. Furnished with such a ticket, I was able to penetrate to the Place Vendôme, and observe the preparations which had been made for the fall of the famous column. They seemed at first sight totally inadequate for so vast an undertaking. A large cable had been passed around the top of the column just below the statue; this rope (or rather these ropes, for there were four of them) was attached to an anchor and capstan in the Rue de la Paix. But the anchor and capstan were both so exceedingly badly fixed in the ground that it was evident to the most inexperienced observer that, unless the column fell of its own weight, something was sure to give way in the tackling. The engineer, however, like most Frenchmen, was wonderfully self-confident, and assured every one who chose to listen to him that the column would fall whenever he gave word for the ropes to be tightened. At about 3 o'clock we, in the Place, were all driven back on to the sidewalks by a line of guards.

Colonel Mayer, who commanded in the Place Vendôme, then ascended the column in full uniform of the National Guards, with a small tricolor flag in his hand. After walk-

ing around the gallery at the top of the column, and waving his flag to all the quarters of the heavens, Colonel Mayer then tore the bunting and proceeded to tie it, point downward, to the rails surrounding the crowning gallery. He then came down, and the order to tighten the ropes was almost immediately given by a member of the Commune standing in the balcony of the Ministry of Justice, just above where I was stationed. Rapidly the big ropes became as rigid as bars of steel; all eyes were turned toward the column, and we all thought its hour had come, more especially because a rapidly passing cloud made it look as if it already trembled on its base. But the capstan turned without effect, when suddenly a loud crack was heard, and a block attached to the capstan gave way, knocking over several sailors. Nobody, however, was badly hurt, but we were told that nothing could be done for two hours, as a new block must be obtained.

About 5 o'clock it was announced that all was ready, and two new ropes were attached to the top of the column in order to shake it so as to add to the steady tension of the ropes already described. At 5.20 the six ropes began to tighten, amid breathless expectation from the assembled thousands. For nearly five minutes no effect whatever seemed to be produced on the majestic column, which still rose against the bright blue sky as bold and majestic as ever, and seeming to defy fate and the Commune. The men at the capstan strained and sweated, and the engineer ran about from capstan to column and from column to capstan like one demented. Suddenly there was a cry, and surely and slowly the huge bronze mass bowed and tumbled toward the Rue de la Paix, and fell on its bed of fagots, sand and dung. Strange to say, as it fell it burst into three or four pieces before it touched the ground. Striking the bed with a loud report, it hurled the fagots, and even pieces of the bas-reliefs, right and left. A huge cloud of dust arose at once, but the crowd rushed madly forward to secure relics

of the fallen monument. Like flies on a carcass, we were all busy in ten seconds after the column had fallen in securing pieces of its remains.

L.—PARIS AND CHICAGO.

O bird with a crimson wing,
And a brand in thy glowing beak;
Why didst thou flutter o'er seas to bring
A woe that we dare not speak.

By the light of a flaming sword,
Did the beautiful Queen of the East
Behold the awful, avenging word,
And drink the blood of the feast.

Her fires went out on the hearth,
And the glory of Paris has fled;
Could her maddening wiles and unseemly mirth,
Unstop the ears of the dead!

Did out of her ashes arise,
This bird with a flaming crest;
That over the ocean unhindered flies,
With a scourge for the Queen of the West?

See homes at its bidding fall!
At its fiery fierce attack!
While the fiends of the air hold carnival,
In the light of its lurid track.

The joys that were held so dear,
On the glow of its breath expire;
While treasures and palaces disappear,
Consumed by its vengeful ire.

Fly hence on thy wing of flame,
O bird! for thy work is done;
And the queens of a different clime and name,
In their ruin and grief are one.

LI.—EDINBURGH.

The metropolis of Scotland is situated in the county of Mid-Lothian and about two miles from the Firth of Forth. Its length and breadth are about two miles in either direction. In panoramic splendor, its site is generally admitted to be unequaled in Europe, and the prospects from the elevated points of the city and neighborhood are of singular grandeur and beauty. To most of the great cities of the kingdom, the approaches lie through mean and squalid suburbs, by which the stranger is gradually introduced to the more striking streets and public edifices. The avenues to Edinburgh, on the contrary, are lined with the abodes of a highly respectable class, the abodes of the poor being, for the most part, confined to the gigantic piles of building in the center of the city.

The resemblance between Athens and Edinburgh, which has been remarked by most travelers who have visited both capitals, has conferred upon the Scottish metropolis the title of "The Modern Athens." The natural or artificial beauties of the place, however, are not its only attractions, for many of its localities teem with recollections of the past, and are associated with events of deep historical importance.

A view of the city from the southwest embraces almost all the prominent points of interest in town. Directly in front of us is the building known as the Royal Academy. This institution, founded in 1823, occupies a conspicuous position at the foot of the mound. Its architecture is Greek, having a portico surrounded by columns, and long ranges of pillars on each flank. The interior accommodations consist of the galleries, of the valuable and interesting museum of the Society of Antiquaries, and a noble collec-

tion of casts from the best ancient works of sculpture. There is also a School of Design in the building, in which instruction is given in drawing, with reference to manufactures. Beyond the Academy is the monument to Sir Walter Scott, erected in 1844, which is one of the principal attractions of the city. The Post-office, a fine square building, stands on Prince's Street, on the site of the old Theatre Royal.

Edinburgh Castle stands at the head of High street, on a precipitous rocky eminence, which is the culmination of the ridge of High street. Its origin is unknown, but there is no doubt that it is the oldest part of the city, and that it formed the nucleus around which Edinburgh has arisen. It consists of a series of irregular fortifications; and although before the invention of gunpowder it might be considered impregnable, it is now a place of more apparent than real strength. Its elevation is 383 feet above the sea, and from various parts of the fortifications a magnificent view may be obtained.

The esplanade, one of the earliest promenades of the citizens, still forms a most agreeable resort.

On the highest point of the rock is situated the ancient royal palace in which are yet preserved the regalia of Scottish royalty, consisting of a crown, a sceptre, and a sword of state. High street was long considered one of the finest in Europe; and, though advancing years have swept away many of its relics, it nevertheless has a few memorials of the glory departed. Many quaint old houses still remain that have been the residence of rank, wealth, and fashion in the time of the Stuarts.

LII.—EDINBURGH AFTER FLODDEN.

News of battle! news of battle!
Hark! 'tis ringing down the street;
And the archways and the pavement
Bear the clang of hurrying feet.
News of battle!—who hath brought it?
News of triumph!—who should bring
Tidings from our noble army,
Greetings from our gallant King?

All last night we watched the beacons
Blazing on the hills afar,
Each one bearing, as it kindled,
Message of the opened war.
All night long the northern streamers
Shot across the trembling sky;
Fearful lights, that never beckon
Save when kings or heroes die.

News of battle! who hath brought it?
All are thronging to the gate;
"Warder—warder! open quickly!
Man—is this a time to wait?"
And the heavy gates were opened;
Then a murmur long and loud,
And a cry of fear and wonder
Bursts from out the bending crowd.

For they see in battered harness
Only one hard-stricken man,
And his weary steed is wounded,
And his cheek is pale and wan;
Spearless hangs a bloody banner
In his weak and drooping hand—
What! Can that be Randolph Murray,
Captain of the city band?

Round him crush the people, crying,
"Tell us all—O, tell us true!
Where are they who went to battle,
Randolph Murray, sworn to you?
Where are they, our brothers—children?
Have they met the English foe?
Why art thou alone, unfollowed?
Is it weal or is it woe?"

Like a corpse the grisly warrior
Looks from out his helm of steel—
But no word he speaks in answer—
Only with his armed heel
Chides his weary steed, and onward
Up the city streets they ride;
Fathers, sisters, mothers, children,
Shrieking, praying by his side.
"By the God that made thee, Randolph!
Tell us what mischance hath come."
Then he lifts his riven banner,
And the asker's voice is dumb.

The elders of the city
Have met within their hall—
The men whom good King James had charged
To watch the tower and wall.
Then in came Randolph Murray—
His step was slow and weak,
And as he doffed his dinted helm,
The tears ran down his cheek;
They fell upon his corselet,
And on his mailed hand,
As he gazed around him wistfully,
Leaning sorely on his brand.

And none who then beheld him
But straight were smote with fear,
For a bolder and a sterner man
Had never couched a spear—
They knew so sad a messenger
Some ghastly news must bring,
And all of them were fathers,
And their sons were with the King.

And up then rose the Provost—
A brave old man was he,
Of ancient name, and knightly fame,
And chivalrous degree.
O woful now was the old man's look,
And he spake right heavily:
"Now, Randolph, tell thy tidings,
However sharp they be!
Woe is written on thy visage,
Death is looking from thy face;
Speak! though it be of overthrow—
It cannot be disgrace!"

Right bitter was the agony
That wrung that soldier proud;
Thrice did he strive to answer,
And thrice he groaned aloud.
Then he gave the riven banner
To the old man's shaking hand,
Saying, "That is all I bring ye
From the bravest of the land!
Ay! ye may look upon it—
It was guarded well and long,
By your brothers and your children,
By the valiant and the strong.
One by one they fell around it,
As the archers laid them low,
Grimly dying, still unconquered,
With their faces to the foe.

"Ay! ye well may look upon it—
There is more than honor there,
Else be sure I had not brought it
From the field of dark despair.
Never yet was royal banner
Steeped in such a costly dye;
It hath lain upon a bosom
Where no other shroud shall lie.
Sirs! I charge you keep it holy,
Keep it as a sacred thing,
For the stain ye see upon it
Was the life blood of your King!"

Woe, woe and lamentation !
What a piteous cry was there !
Widows, maidens, mothers, children,
Shrieking, sobbing in despair !

* * * * *

"O, the blackest day for Scotland
That she ever knew before !
O our King ! the good, the noble,
Shall we see him never more ?
Woe to us, and woe to Scotland !
O our sons, our sons and men !
Surely some have 'scaped the Southron,
Surely some will come again ?"
Till the oak that fell last winter
Shall uprear its shattered stem—
Wives and mothers of Dunedin—
Ye may look in vain for them !

LIII.—OLD SCOTTISH CASTLES.

The building of castles in Scotland dates back as far as the tenth century. Before the accession of James VI to the throne of England, the situation of Scotland was such that every baron's house was more or less fortified, according to the power or consequence of its lord, or according to the situation of the castle. Near Edinburgh, where the inhabitants were more influenced by government, no more were necessary than towers capable of resisting robbers. But where more remote, the unsettled state of the country, and

feuds between rival clans, caused the erection of those noble structures which have endured to our time.

One of the most interesting of these is Stirling Castle, in the town of Stirling. The castle is built on the western end of the ridge on which the town is situated, and is of much greater age than the town itself. It is defended on three sides by steep rocks, and on the fourth—or town side, by a deep ditch, crossed by a draw-bridge, and two strong walls. In the center of the castle stands the old Parliament House, built by James III. Many interesting facts are connected with this stronghold, and its history is really the history of Scotland.

The ruins of Dunnottar Castle stand upon a lonely rock. The area of the castle measures about three acres of land, and it is separated from the land by a deep chasm, the only approach being up a steep path winding round the body of the rock. During the time of the Commonwealth, this castle was selected as the strongest place in the kingdom for the preservation of the crown jewels. The garrison made a vigorous resistance to the Cromwellian troops, but were at length forced to surrender, not, however, until the royal treasures had been secretly conveyed away, and hid under a pulpit in Kinneff, by the wife of the minister at that place.

During the reign of Charles II, Dunnottar Castle was used as a state prison for confining Covenanters. The prisoners were, without distinction, packed into a dungeon, having a window open to the sea, in front of a huge precipice. They were allowed neither bedding nor provisions, except what they bought, and were treated by their keeper with the utmost rigor. The walls of the place, still called the Whig's Vault, bear evidence of the severities inflicted on those unhappy persons.

Drummond Castle, a few miles south of the town of Crieff, is the original seat of the noble family of Perth. Immediately in front of the principal face of the castle lies

the flower-garden of Drummond, noted throughout Scotland. The view from the battlements exhibits the renowned gardens immediately below, while, for nearly thirty miles around, there is an unbroken sweep of forest and mountain, over which the dark gray turrets alone appear to rule.

Near where the turbulent Cluny clatters down to join the Dee, by a deep rocky ravine, stands Braemar Castle, a bare and plain-looking tower, celebrated as having been the residence of Malcolm, King of Scotland. The stream is fringed with copse, which forms almost the only vegetation in the neighborhood, except the short grass that covers the Scotch moors. The solid walls of the castle, broken only by small narrow windows, and topped with heavy turrets, made it a place of great strength in those days when arrows and spears and swords, were the chief weapons of attack; but they would stand only a few hours before the cannon of our day. All these buildings are relics of another age and forms of warfare, as well as of social and political life, which are now quite extinct.

LIV.—THE BATTLE OF FLODDEN FIELD.

Blount and Fitz Eustace rested still
With Lady Clare upon the hill;
On which (for far the day was spent)
The western sunbeams now were bent;
The cry they heard, its meaning knew,
Could plain their distant comrades view:
Sadly to Blount did Eustace say,

"Unworthy office here to stay,
No hope of gilded spurs to-day.—
But see! look up—on Flodden bent
The Scottish foe has fired his tent."
And sudden as he spoke,
From the sharp ridges of the hill,
All downward to the banks of Till,
Was wreathed in sable smoke.
Volumed and vast, and rolling far,
The cloud enveloped Scotland's war,
As down the hill they broke
Nor martial shout, nor minstrel tone,
Announced their march; their tread alone,
At times one warning trumpet blown,
At times a stifled hum,
Told England, from his mountain-throne
King James did rushing come.—
Scarce could they hear or see their foes,
Until at weapon-point they close.—
They close in clouds of smoke and dust,
With sword-sway, and with lance's thrust;
And such a yell was there,
Of sudden and portentious birth,
As if men fought upon the earth,
And fiends in upper air;
O life and death were in the shout,
Recoil and rally, charge and rout,
And triumph and despair;
Long looked the anxious squires; their eye
Could in the darkness nought descry.
At length the freshening western blast
Aside the shroud of battle cast;
And, first, the ridge of mingled spears
Above the brightening cloud appears;
And in the smoke the pennons flew,
As in the storm the white sea-mew.
Then marked they, dashing broad and far,
The broken billows of the war,
And plumed crests of chieftains brave,
Floating like foam upon the wave;
But naught distinct they see.
Wide raged the battle on the plain,

Spears shook, and falchions flashed amain;
Fell England's arrow-flight like rain;
Crests rose, and stoop'd and rose again
  Wild and disorderly.
Far on the left, unseen the while,
Stanley broke Lenox and Argyle;
Though there the western mountaineer
Rushed with bare bosom on the spear,
And flung the feeble targe aside,
And with both hands the broad-sword plied;
'Twas vain:—But Fortune, on the right,
With fickle smile cheered Scotland's fight.
Then fell that spotless banner white,
  The Howard's lion fell;
Yet still Lord Marmion's falcon flew
With wav'ring flight, while fiercer grew
  Around the battle yell.
The border slogan rent the sky,
A Home! A Gordon! was the cry:
  Loud were the clanging blows;
Advanced,—forced back,—now low, now high,
  The pennon sunk and rose;
As bends the bark's mast in the gale,
When rent are rigging, shrouds and sail,
  It wavered 'mid the foes.
No longer Blount the view could bear:
"By Heaven and all its saints, I swear
    I will not see it lost!
Fitz Eustace, you, with Lady Clare,
May bid your beads and patter prayer,—
  I gallop to the host."
And to the fray he rode amain,
Followed by all the archer train.
The fiery youth with desperate charge,
Made, for a space, anopening large,—
  The rescued banner rose,—
But darkly closed the war around,
Like pine-tree, rooted from the ground,
  It sank among the foes.

* * * * * * *

With that, straight up the hill there rode
Two horsemen, drenched with gore,
And in their arms, a helpless load,
A wounded knight they bore.
His hand still strained the broken brand;
His arms were smear'd with blood and sand:
Dragg'd from among the horses' feet,
With dinted shield, and helmet beat,
The falcon-crest and plumage gone,
Can that be haughty Marmion!
When, doffed his casque, he felt free air,
Around 'gan Marmion wildly stare:—
"Where's Harry Blount? Fitz Eustace, where?
Linger ye here, ye hearts of hare!
Redeem my pennon,—charge again!
Cry—'Marmion to the rescue'!—vain!
Last of my race, on battle-plain
That shout shall ne'er be heard again!—
Yet my last thought is England's—fly.
To Dacre bear my signet-ring:
Tell him his squadrons up to bring.—
Fitz Eustace, to Lord Surrey hie;
Tunstall lies dead upon the field,
His life-blood stained the spotless shield:
Edmund is down:—my life is reft;
The Admiral alone is left.
Let Stanley charge with spur of fire,—
With Chester charge and Lancashire,
Full upon Scotland's central host,
Or victory and England's lost.—
Must I bid twice?—hence, varlets! fly!
Leave Marmion here, alone—to die!"
They parted, and alone he lay:
Clare drew her from the sight away,
Till pain rung forth a lowly moan,
And half he murmurred—"Is there none
Of all my halls have nurs't,
Page, squire, or groom, one cup to bring
Of blessed water from the spring
To slake my dying thirst!"
O, woman! in our hours of ease,
Uncertain, coy, and hard to please

And variable as the shade
By the light quivering aspen made;
When pain and anguish wring the brow,
A ministering angel thou!
Scarce were the piteous accents said,
When, with the Baron's casque, the maid
To the nigh streamlet ran:
Forgot were hatred, wrongs, and fears;
The plaintive voice alone she hears,
Sees but the dying man.
She fill'd the helm, and back she hied,
And with surprise and joy espied
A monk supporting Marmion's head;
A pious man whom duty brought
To dubious verge of battle fought,
To shrive the dying, bless the dead.
The war, that for a space did fail,
Now, trebly thundering, swell'd the gale,
And—Stanley! was the cry;—
A light on Marmion's visage spread,
And fired his glazing eye:
With dying hand, above his head,
He shook the fragment of his blade,
And shouted, "Victory!—
Charge, Chester, charge! On, Stanley, on!"
Were the last words of Marmion.
By this, though deep the evening fell,
Still rose the battle's deadly swell,
For still the Scots around their king,
Unbroken, fought in desperate ring.
The English shafts in volleys hail'd,
In headlong charge their horse assail'd,
Front, flank, and rear, the squadrons sweep,
To break the Scottish circle deep,
That fought around their king.
But yet, though thick the shafts as snow,
Though charging knights like whirlwinds go,
Though billmen ply the ghastly blow,
Unbroken was the ring;
The stubborn spearmen still made good
Their dark impenetrable wood,
Each stepping where his comrade stood,
The instant that he fell

No thought was there of dastard flight;
Linked in the serried phalanx tight,
Groom fought like noble, squire like knight
As fearlessly and well;
Till utter darkness closed her wing
O'er their thin host and wounded king,
Then skillful Surrey's sage commands
Led back from strife his shattered bands;
And from the charge they drew,
As mountain-waves, from wasted lands,
Sweep back to ocean blue.
Then did their loss his foeman know;
Their king, their lords, their mightiest, low,
They melted from the field as snow,
When streams are swoln, and south winds blow
Dissolve in silent dew.
Tweed's echoes heard the ceaseless plash,
While many a broken band,
Disorder'd, through her currents dash,
To gain the Scottish land;
To town and tower, to down and dale,
To tell red Flodden's dismal tale
And raise the universal wail.
Tradition, legend, tune and song,
Shall many an age that wail prolong;
Still from the sire the son shall hear
Of the stern strife and carnage drear
Of Flodden's fatal field,
Where shivered was fair Scotland's spear,
And broken was her shield.

LV.—CONSTANTINOPLE.

The capital of the Turkish empire is situated on a triangular promontory, of which the base is toward, and is bounded by, the sea of Marmora on the southeastern, and the harbor or Golden Horn on the northern side. The city stands upon seven hills or risings, and was defended, in early times, on the side of the land, by a wall from fourteen to twenty feet high, beyond which was a ditch twenty-five feet broad. There are extensive suburbs, the largest of which is Scutari, situated on the other side of the Bosphorus. Another one, Galata, on the northern side of the harbor, has gradually become the principal seat of mercantile enterprise.

The gentle undulations on which the town stands, and the great number of whitewashed minarets, give a magnificent appearance to Constantinople, as seen from the water; and the view is particularly grand from the opening of the Bosphorus and harbor; but the internal by no means corresponds with the external appearance. The streets are most irregular, and badly paved, and the houses are wretchedly built of wood. There are neither names to the one nor numbers to the other. Of late years more attention has been paid to the keeping of the streets. The vulture, which once was common, has disappeared, and the number of kites and dogs, which live on the offal, is rapidly diminishing; yet, even now, few towns can compete with this in filthiness and defective draining. Conflagrations are common, and said, indeed, to be frequently willful.

In the absence of facilities for street travel, there are a vast number of caiques, or small boats, which ply, for moderate fares, on the harbor and Bosphorus.

Notwithstanding the insignificance of much of Constantinople, there are a few buildings which deserve notice from the beauty of their architecture. The mosque of St. Sophia is the most celebrated of that class of structures in the world, as it is one of the finest. Originally a Christian church, it was converted into a Mohammedan place of worship some time after its erection. It is in the form of a Greek cross, 269 feet in length by 143 in breath, and surmounted by a flattened dome 180 feet above the ground, besides several minor cupolas, and four minarets added to it by the Turks. In its interior are numerous large columns, a floor of variegated marble, and some magnificent bronze gates, but most of the ancient Byzantine paintings and decorations have been hidden by Turkish inscriptions, and the general effect of the building is injured by the presence of a multitude of lamps, globes, and other ornaments, depending from the dome. Some of the pillars of the dome are of green jasper, and are reported to have been the supports of the ancient temple of Diana at Ephesus.

In the neighborhood of the mosque is an open space called the At-Meidan (horse place), about 500 feet in length and 300 feet in breadth. This was the Hippodrome, in which the old game of throwing the jereed was practiced by the Turks. Along the center line of it are placed an Egyptian obelisk, the remains of a small column composed of three twisted serpents in bronze, and a tall obelisk, much decayed.

The mosque of Soleyman the Magnificent, is another of the city's celebrities. This is a large structure, in the general form of a square, from which rise a succession of domes, minarets, and towers, of extreme beauty. The mosque is a masterpiece of Saracenic architecture.

The Seraglio, forming a distinct quarter of the town, is seldom visited by the Sultan, who stays in his private palace most of the time. It was formerly closed to the public, and the mystery which surrounded it gave rise to

the most fabulous accounts of the splendor and magnificence of this imperial residence, all of which have vanished since it has been thrown open to visitors, who could not fail to see that the Sultan's palace stands far below the residences of other European monarchs in sumptuousness. The new palace, however, at Dobna Baghtshe, where the Sultan passes his time at present, is of great magnificence, and was erected at an enormous cost. The grand gateway is a beautiful piece of architecture, with marble pillars and the most exquisite and ornate decorations.

LVI.—CAIRO.

This city, the capital of Egypt, was founded in 969 A. D. The walls of Cairo, built at first of brick, were afterwards laid of stone by the celebrated Saladin. One of the chief objects of interest in the city is the Citadel, which contains several things worthy of a visit, among which may be mentioned the Pasha's Palace, the new Mosque, built by Mohammed Ali, and the Arsenal. The palace contains some handsome rooms, and the view from it is very fine. The Mosque consists of an open square, surrounded by single rows of columns. The columns have a fancy capital, supporting round arches, and the whole, with the exception of the outer walls, is of Oriental alabaster. But it excites admiration for the materials, rather than for the style of its architecture.

From the platform is a grand and commanding view of the city and the surrounding country, taking in the arsenal immediately below, the fine mosque of Sultan Hassan, just

outside the gates of the citadel, the numerous minarets of Cairo, and, in the distance, the Pyramids. Parts only of the old citadel walls now remain, the others having been replaced by bastions and curtains of European construction. On the western wall of the citadel is an eagle in high relief, supposed to be an emblem or banner of Karakoosch, the minister of Saladin; and the credulous believe that it formerly uttered a cry when any calamity was about to happen to the city.

The narrowness of the streets of Cairo, and their great irregularity, strike a European strangely; but their Oriental character fully compensates for this objection, and of all Eastern towns, none is so interesting in this respect as the Egyptian capital. Nor is this character confined to the bazaars, to the mosques, or to the peculiarities of the exterior of the houses; the interiors are of the same original style, and no one can visit the harems and courts of the private dwellings without recalling the impressions he received on reading the Arabian Nights. The picturesque style of the courts, the inlaid marble, the open fonts, the elaborate fretwork of the projecting windows, with their panes of stained glass, have a pleasing effect, and remind us of the descriptions of old Saracenic mansions.

Cairo is said to contain about 400 mosques. Many of them are in ruins, but the great number of those that are still in repair, and used for their daily prayers, must be apparent to any one who passes through the streets, or sees their numerous minarets from without. The finest mosque in Cairo is the mosque of the Sultan Hassan. Its beautifully ornamented porch, the rich cornice of its towering walls, its minarets, and the arches of its spacious court, must delight every lover of architecture. And so impressed are the Cairenes with its superiority, that they believe the king ordered the hand of the architect to be cut off, in order to prevent his building any other that should vie with

it. The blocks used in the erection of this noble edifice were brought from the Pyramids.

Some of the ornamentations of the ancient buildings are extremely elaborate, and as fine a piece of work as is to be found in Cairo, is a latticed window on Mushreebah, a dilapidated mosque. Part of the lattice itself has fallen to decay; but there is left enough to show the delicacy and beauty of its architecture.

LVII.—EGYPT AND THE NILE.

The general appearance of Egypt is remarkably uniform. The Delta is a plain richly cultivated, and varied alone by the lofty dark-brown mounds of ancient cities, and the villages in groves of palm-trees, standing on mounds, often if not always ancient. In Upper Egypt the valley is in as rich a state of cultivation, but very narrow and bounded by mountains of no great height, which hem it in a confined space. They constitute the edge of the desert on either side of the valley, which appears as though it had been cut through a rocky table-land, for they rarely take the form of peaks. The features of the country, therefore, vary little, nor is there great difference in the color. The bright green of the fields, however, the reddish brown color of the rivers, the tints of the bare yellow rocks, and the deep blue of the sky, always form a pleasant view, and often one of great beauty.

The climate of Egypt, being remarkably equable, is healthy to those who can bear great heat, and who avoid the

unwholesome tracts of the country. The atmosphere is dry and clear, except on the sea-coast; and even the dampness, which is the inevitable consequence of the inundations of the river, is scarcely felt, except in rendering the heat more oppressive. On the coast of the Mediterranean rain is frequent, but in other parts of Egypt very unusual. At Cairo there is generally one heavy storm in winter, and a shower or two besides, while at Thebes a storm occurs but once in about four years, and light rain almost as rarely.

The present population of Egypt is between two and three millions, and of these seven-eighths are Mohammedans. The men and women are generally well-proportioned. In Cairo and the northern provinces, those who have not been much exposed to the sun have a yellowish but very clear complexion; the rest are of considerably darker and coarser hue. The principal feature of dress with the men is a long vest of silk, called *kaftan*, which has hanging sleeves and reaches below the ankles. In going abroad the ladies always wear a veil which entirely conceals the features, except the eyes; it is a long and narrow piece of thick white muslin, reaching a little below the knees.

The chief characteristic of Egyptian scenery is the Nile. This river is all that makes Egypt. Its waters fertilized the desert through which it passes, and made it fit for habitation. It is the chief channel of communication in the country. Without it, Egypt could not exist as an inhabited land. The scenery along the banks of the Nile is seldom beautiful. There is little variety of landscape, and, what there is, is interesting mostly on account of some clustering associations.

Near the first cataract lies the town of Assonan, the ancient Syene. It presents few ruins of the ancient city, except some granite columns of a late date and a small temple. This was the place to which the poet Juvenal was banished. The first cataract is merely a rapid, formed by

the rush of water through a mass of rocks, and its highest fall does not exceed five or six feet. The two last or southernmost falls are the greatest, but they are passable at all times of the year. The boats are towed up by ropes, and there is little fear of accidents.

The island of Philæ stands a short distance above the cataract, and is no less interesting from the subjects contained in its sacred buildings than for the general effect of the ruins. The principal building is the temple of Isis, which is decorated with fine sculptures and curious inscriptions.

At Sycopolis there are several pits cut in the rock, the burial places of the inhabitants of that old city. Though not containing a great profusion of sculpture, they are of considerable interest from their antiquity, and some have the names of very old kings. The view over the town and the green plains in the spring is very beautiful from their tombs.

LVIII.—ANCIENT RELIGIOUS RUINS.

Scattered over the world's surface are fragments and relics of edifices that have existed long after the sentiment that gave them birth has passed out of sight and memory. Among these none are more interesting than the remains of temples, altars, and religious structures, generally. From these we are able to form ideas not only of the religious customs and observances of the people who erected them, but also of the people themselves.

The celebrated ruins of Stonehenge, on Salisbury Plain, England, are a fine example of this class of structures. They consist simply of enormous stones set in an upright and horizontal position. When seen from a distance, their appearance is somewhat insignificant, on account of their position on a wide unbroken plain. On a near approach, however, their magnitude can be duly appreciated. Stonehenge is enclosed by a double mound and ditch, circular in form, the whole 1009 feet in circumference. The stones, which are arranged in order, have a length of from 15 to 20 feet, and in the center is a large slab of coarse blue marble, 16 feet long and 4 broad, supposed to have been a part of the altar. It seems most likely that Stonehenge was erected by the ancient Britons for solemn religious rites; and, from the art displayed in their construction, it could not have been much earlier than the time of the Roman conquest.

The island of Java, belonging to the system geographically called Malaysia, is situated near the south-eastern coast of Asia. It is a country but little known, though it is of great importance commercially to the world. The present religion of the people is Mohammedan, that faith having been established by their Arab conquerors in the 15th century. Buddhism and Brahminism were the ancient religions of the Javanese, and there are yet many ruins of their old temples standing throughout the country. Their style of architecture is much like the Chinese and Japanese, having, in fact, been modeled from them, though they are perhaps a little less elaborate.

In the temples and pagodas of India and China are found the clearest traces of antiquity in architecture. The most common Hindoo pagoda of the present day is composed of a rectangular mass, surmounted by a graduated truncated pyramid. That this species of structure is of very considerable antiquity, may be concluded from the fact that everything in its composition and arrangement is determined by immutable precepts of a religious nature. The

Chinese pagodas are often rich in ornamentation, both externally and internally, though the effect is generally moved by their very incongruity of structure. Many pogodas are found in China which are asserted by the inhabitants to be a thousand years old, but their habit of exaggerating everything renders their word not very trustworthy.

LIX.—THE RAVAGES OF TIME.

I saw a vale—sequestered—green,
From which a crystal fount was welling;
Its silv'ry tide, whose rippling sheen,
Over the tufted marge was swelling.

And onward, o'er its verdant bed,
Set noiseless—one might mark it stealing,
Now "hiding its diminished head,"
And now again its course revealing.

Time sped. That brooklet onward flowed
To mingle with the mighty ocean,
And all the charms its source bestowed,
Were lost amid the waves' commotion.

I saw upon Nile's sacred banks,
The mighty pyramids, uprearing
Their cloud-capt heads; grim, aged ranks
Of sphinxes, 'midst the tombs appearing.

And the Memnonium, too, was there,—
Gigantic—musical—and solemn;
While, high in the transparent a'r,
Old Pompey raised his wond'rous column.

I sought that classic scene again,—
How little of its beauty lingers!
For Memnon lies upon the plain,
O'erthrown by Time's decaying fingers!

And where is Carthage? where is Rome,
With all the glories which it cherished?
Where sumptuous Athens? Balbec's dome?
Time touched them—and they perished!

LX.—PICTURESQUE SCENES IN THE BRITISH ISLES.

There are many parts of Great Britain which possess exceeding beauty of scenery; this being further enhanced by the great associations that crowd almost every corner of the United Kingdom. Who has not heard of the charming Lakes of Killarney? Ireland has nothing more beautiful to offer to the tourist than these sheets of water embosomed in the hills. The mountains seem to have their feet in the deep waters; they rise sheer up on every side. Gray islands, spring abruptly from the bosom of the deep. Then, again, there are island rocks surmounted with the greenest of trees, and on some the arbutus attains a size that is altogether wondrous. Although the Lakes of Killarney are three in number, yet they are all contained in one mountain hollow; and certainly there is not, within the same compass, anything in England presenting the same concentration of charm.

The Highland lakes have attained a just celebrity for beauty and picturesqueness of situation. On the road from

Callander to the Trossachs lies the modest little Loch Achray, which presents a beautiful appearance with Ben Venue rising in the back-ground. Few mountains can boast of an outline so nobly graduated, or combining such rich and singular beauty with alpine dignity, as Ben Venue. In the neighborhood were laid many scenes of Scott's novels and border poetry which have been indelibly impressed on the minds of all literary readers.

Another interesting point in Scotland is Dumbarton Castle, situated on a rock of the same name, rising to a height of 560 feet, measuring a mile in circumference, and terminating in two points, one a little higher than the other. Dumbarton was the place of confinement of the patriot Wallace. The view from the castle over the River Clyde is of singular attractiveness.

The Vale of Avoca, in Ireland, celebrated in verse by the poet Moore, comprises one of the finest touches of landscape to be anywhere found. The undulating hills around, the quiet stream, and the gently sloping banks lined with the verdure peculiar to the "Emerald Isle," all combine to produce the most enchanting effects on the mind of the beholder.

One of the oldest specimens of British architecture is Glastonbury Abbey, of which but the ruins are now left. This was a most magnificent structure, once covering sixty acres of ground, but its materials were taken by the inhabitants for their dwellings, and the only remnants of the old abbey are the beautiful ruins of the church, with St. Joseph's Chapel and the Abbot's Kitchen. The foundation of the abbey occurred in 505, and was on the site of a British church, said to owe its origin to Joseph of Arimathea, whose miraculous thorn, which constantly blossomed on Christmas day, together with the shrine of St. Dunstan, used to attract multitudes of devotees to Glastonbury in the middle ages. Here is also said to be the burial place of the renowned King Arthur, of the Round Table.

The scenery of the Malvern Hills, in the west of England, is of surpassing beauty in the summer months, when the verdure is most luxuriant and the weather at its mildest. The town of Malvern is a great resort for people of fashion at this season, on account of a celebrated medicinal spring there located.

The river Thames, though not the longest, has been justly called the King of all the English rivers, superior to most in beauty, and to all in importance. The whole length of the river is 215 miles, and it flows south-easterly from its source in the Cotswold Hills. As it rolls on, the country becomes more rich and beautiful, while its volume is ever increased by affluents on either side. The Thames is of vast importance as a means of communication; for though, with the exception of the metropolis, it passes no manufacturing or commercial cities, it traverses some of the richest agricultural districts in the country.

Balmoral Castle, in Scotland, is the summer residence of Queen Victoria. As the old castle did not afford sufficient accommodation for the royal family, Prince Albert erected the present new and commodious building at his own expense. The new castle stands on the level of the old residence, but nearer the margin of the river Dee, which here, in a semicircle, sweeps round the base of the neighboring mountain range, and forms a large peninsula, containing the castle. The building is of Scottish baronial style of architecture, modified in some of its details so as to combine the more bold and prominent features of the ancient stronghold with the more domestic character of modern civilization.

A remarkable headland projects into the Atlantic at the western extremity of Cornwall, England, which has received the very appropriate name of Land's End. It is formed of granite cliffs, whose summits are sixty feet above the level of the sea, and is the most western point of Great Britain. The scenery in the neighborhood is wild and

lonely, no sound being heard save the breaking of the waves at the foot of the cliffs. The nearest town of any size is Penzance, and the chief interest there is in the mining operations for which Cornwall is widely noted. About one mile distant from the promontory are the dangerous rocks called the Longships, on which has been erected a lighthouse with fixed lights, eighty-eight feet above high water.

On a peninsula in the vicinity of Land's End is one of those natural curiosities called "Logging," or "Logan Stones." It is a gigantic mass of stone, so poised on a fulcrum, that it can be made to rock by the comparatively insignificant force of a man's strength. The country all around is strewn with huge blocks and masses of granite, worn and colored by the action of water.

On the northern coast of Ireland is a vast collection of basaltic rocks, shaped into regular form and features by volcanic force. These have received the name of the "Giant's Causeway," and their general formation we have elsewhere described under that denomination. The summit of the Causeway is the narrowest part, and, at the same time, affords the grandest formations of the whole. Here the regularity is less distinct, and broken, jagged masses lie everywhere piled up in greatest confusion. Occasionally, a solitary column will be seen extending upward to a great height, and seemingly ready to topple over at the least provocation. To these are given the name of "Chimneys," and they are not the least among the curiosities of this remarkable region.

Near the Causeway, where the cliffs bulge boldly out in the sea, may be seen one of those fanciful resemblances to the human countenance which have been found almost everywhere throughout the globe. It is the shape of an enormous head, of which the features are distinctly marked on the face of the cliff, and has, not inaptly, been called "The Giant's Head."

LXI.—HELVELLYN.

I climbed the dark brow of the mighty Helvellyn;
Lakes and mountains beneath me gleamed misty and wide;
All was still, save by fits, when the eagle was yelling,
And, starting around me, the echoes replied;
On the right, Striden-edge round the Red-tarn was bending,
And Catchedicam its left verge was defending,
One huge, nameless rock in the front was ascending,
When I marked the sad spot where the wanderer had died.

Dark green was that spot 'mid the brown mountain heather,
Where the pilgrim of nature lay stretched in decay,
Like the corpse of an outcast abandoned to weather,
Till the mountain winds wasted the tenantless clay.
Nor yet quite deserted, though lonely extended,
For, faithful in death, his mute favorite attended,
The much-loved remains of her master defended,
And chased the hill-fox and the raven away.

How long didst thou think that his silence was slumber?
When the wind waved his garment, how oft didst thou start?
How many long days and long weeks didst thou number,
Ere he faded before thee, the friend of thy heart?
And, oh, was it meet that,—no requiem read o'er him,
No mother to weep, and no friend to deplore him,
And thou, little guardian, alone stretched before him,—
Unhonored the pilgrim from life should depart?

When a prince to the fate of the peasant has yielded,
The tapestry waves dark round the dim-lighted hall;
With scutcheons of silver the coffin is shielded,
And pages stand mute by the canopied pall:
Through the courts, at deep midnight, the torches are gleaming;
In the proudly arched chapel the banners are beaming;
Far adown the long aisle sacred music is streaming,
Lamenting a chief of the people should fall.

But meeter for thee, gentle lover of nature,
To lay down thy head like the meek mountain lamb
When, 'wildered, he drops from some cliff huge in stature,
And draws his last sob by the side of his dam;
And more stately thy couch, by this desert lake lying,
Thy obsequies sung by the gray plover flying,
With one faithful friend but to witness thy dying,
In the arms of Helvellyn and Catchedicam.

LXII.—CONVENTS, MONASTERIES AND MOSQUES.

The convent or monastery is a building, or group of buildings, for the habitation of monks or nuns. These structures, which are numbered by thousands, first arose in connection with hermit life in the Eastern wilderness. Many of them, which once crowned the mountains or dotted the Egyptian and Arabian deserts, or crowded the populous districts of Europe, are fallen to decay. But, whether still occupied or in ruin, they are objects of interest and deserve mention.

Some of the most famous, like those of St. Gall, Cluny, and Clairvaux, were almost villages in themselves; others were confined to a single imposing building. Some, like the noted convent of Sinai, are on desolate mountains, and have preserved in their seclusion invaluable ancient copies of the Scriptures and other books. These structures are under the control of different monastic orders, and vary widely in discipline, influence, and sanctity.

The remarkable order of Carthusians have a convent at the desert of Chartreuse, near Grenoble, in France, in a ro-

mantic situation, surrounded by the wildest scenery of rocks and forests. Its church is simple and elegant; and the buildings are good representatives of convent architecture. The Grand Cloister forms an oblong square, lighted by one hundred and thirty windows. The oldest part, which was built in the 13th century, has sixty cells opening on two long corridors. These monks are remarkable for their austere rules. They may not quit their cells, except to go to church, nor speak to any person, without leave of their Superior. Their beds are of straw, and their clothing is of the coarsest texture. At eating, they are enjoined to keep their eyes on the dish, their hands on the table, their attention on the reader, and their hearts fixed on God. They are a branch of the great order of the Benedictines.

The single province of Granada, with its three hundred and eighteen cities and villages, contains over two hundred convents. These religious houses are romantically situated among the mountains, and often have large property attached to them. Many of them, like that of Sacrament, have rich vineyards. The people, like the monks, are more bigoted than in many portions of Catholic Europe. The whole province, by the structure of its buildings and ruined mosques, recalls the days of Moorish rule in Spain.

The convent of Mount Carmel forms a pleasant resting-place for the traveler in the Holy Land. The situation is noble. The convent stands high upon the ridge, looking down upon the promontory. It is a large, solid, square building, with a terraced garden. The church, which is a fine rotunda, is in the center of the convent. In the sides of the mountains round the convent are many grottoes, which were occupied by the anchorites in former ages. This convent was blown up in 1821 by Abdullah. After five years a lay brother resolved upon its re-building. He had no means, but drew plans, estimated the cost, and then begged for fourteen years through Europe, Asia, and Africa, until his unceasing toil had secured half a million of francs, and rebuilt the stateliest convent of Palestine.

The Sinai convent is a veritable oasis to the desert pilgrim. A sweet sense of repose and security steals over the mind on entering it, which those can only realize who have experienced the fatigue and excitement of a journey amid native wastes, and in the companionship of the wild Bedouin. The convent is an irregular quadrangular building, 245 feet by 204, encompassed by thick and lofty walls of granite, with little towers at intervals. The walls exhibit motley patchwork of various ages from Justinian to Napoleon. The space enclosed is cut up into a number of little courts and passages; and on the north side of the convent is the extensive garden, surrounded by a lofty wall.

The Mohammedan temples of worship are called mosques. They are square buildings, usually of stone. The Turkish mosques are noted for their elegant cupolas. Before the chief gate there is a square marble court, and low galleries round it, their roofs being supported by marble pillars. In these galleries, ablutions are made by the worshippers before entering the mosque. Each mosque has a great number of lamps, between which are hung crystal rings, ostrich eggs, and other curiosities. Women are not permitted to enter the mosque, and no person may go in except with uncovered feet.

Around each mosque there are six high towers, called *minarets*, covered with lead, and adorned with gilding and other ornaments. From these towers, the people are summoned to worship by criers, called *muezzins*.

Cairo has nearly three hundred mosques, and Constantinople over one thousand.*

The mosque of Aksa in Jerusalem has the form of a great church of seven aisles. It is 272 feet long, and covers about 50,000 square feet. The interior is supported by forty-five columns. The arches of the middle compartments are filled with light columns. It was built on the foundations

* The number sometimes given (5,000) is an exaggeration; it includes all the lesser prayer-houses, and, even at that, is too large. The largest mosques number 485.

of an ancient Christian church in the seventh century. There is nothing commanding in the exterior, and very little of special interest in the interior, except an elaborate pulpit brought from Damascus, where there is another celebrated mosque.

In Cairo are a vast number of tombs, near which are ancient mosques, now deserted and ruined, the haunt of Arab beggars, but still impressive from their peculiarly graceful and massive architecture. The mosque of Sultan Omar is the oldest in Egypt, and that of Sultan Hasan is the most magnificent. The latter has a lofty and beautifully ornamented porch, and the rich cornice of its towering walls, its minarets, and the arches of its spacious court, must delight every admirer of architecture.

Not far from the citadel of Cairo are the well-known tombs of the Mamelukes, usually designated by the Cairenes as the Imam e Shaffee, from the chief of the Moslems, whose tomb forms a conspicuous object. Near this is the sepulchre of the famous Mohammed Ali and his family, consisting of a long corridor and two chambers, each covered by a dome.

At the southeast corner of the mosque of Aksa, in Jerusalem, an open doorway leads into the Mosque of Omar, a long, low building with pointed arches. In its southern wall, between two of the twisted columns, stands the Mihrab of Omar, which, according to the present tradition, marks the place where the Caliph Omar first prayed when he entered Jerusalem.

LXIII.—EGYPTIAN RUINS.

The temple of Isis on the island of Philæ was commenced by Ptolemy Philadelphus, and completed by succeeding monarchs. Many of the sculptures on the exterior are of the later epoch of the Roman Emperors. At the lower part of the façade is a series of figures representing the god Nilus carrying various emblems, which have been found to be the ancient names of towns—a most important discovery, which has tended to throw much light on the ancient geography of the country. The eastern tower of the second or inner wall stands on a granite rock, before which has been erected a small chapel; and its face, cut into the form of a tablet, bears a long inscription of the twenty-fourth year of Euergetes II.

Many parts of this temple, particularly the portico, though not possessing the chaste and simple style of Pharaonic monuments, are remarkable for lightness and elegance, and, from the state of their preservation, they convey a good idea of the effect of color combined with the details of architecture. Nor are the sculptures devoid of interest; and those of the chamber nearly over the western temple, containing the death and resurrection of the god Osiris, throw great light on the study of Egyptian mythology.

It would be an endless task to enter into a detailed account of all that Philæ offers to the curious traveler. There are supposed to be a greater number of interesting hieroglyphic inscriptions on the temples and other ruins of this island than at any other one spot in Egypt. One of these inscriptions was a petition of the priests of the temple to the king; and the tenor of it seems to be to prevent so many people

from visiting the island and living at the expense of the temple. It ran as follows:

"To King Ptolemy and Queen Cleopatra, his sister, and Queen Cleopatra, his wife, gods Euergetes, greeting. We the priests of Isis, the very great goddess worshipped in Philæ, seeing that those who visit Philæ—generals, chiefs, governors, royal scribes, chiefs of police, and all other functionaries, as well as their soldiers and attendants—oblige us to provide for them during their stay; the consequence of which is that the temple is impoverished, and we run the risk of not having enough for the usual sacrifices offered for you and your children; we, therefore, do pray you, O great gods, if it seem right to you, to order Numenius, your cousin and scribe, to write to Lochus, the governor of the Thebäid, not to disturb us in this manner, and not to allow any other person to do so, and to give us authority to this effect; that we put up a small monument with an inscription commemorating your kindness towards us on this occasion, so that your gracious favor may be recorded forever; which being done, we and the Temple of Isis shall be indebted to you for this among other favors. Hail."

The island of Biggeh, near Philæ, contains many ruins, among which is a small temple of great antiquity. On the rocks here are numerous inscriptions, several of which mention the holy objects of their writers, who came to adore the gods of this district, while others merely present the names of monarchs. The view of Philæ from Biggeh is very fine, embracing all the ruins of that island and its surroundings.

LXIV.—ST. PETER'S CHURCH IN ROME.

Rome is a city of churches and religious ceremonies; and, at certain seasons of the year, the city is crowded with religious pilgrims and visitors from all parts of the world, to share in and witness the great religious festivals. Of the great cathedrals in the city, not one is the center of so many ceremonies or commands so noble a view of the whole city as the Church of St. Peter's, the most majestic temple of the Christian world. The mind does not at first comprehend its immensity; but when it is remembered that the interior length of the church is 613 feet and its width 446 feet, its height to the summit of the cross 448 feet, or more than twice the height of Bunker Hill Monument, we become conscious of its gigantic proportions.

The huge cathedral of St. Paul's at London might stand within the shell of St. Peter's, and yet leave a hundred feet of space at the ends and sixty-four in the dome above. This stupendous dome is unrivaled, and has been justly called the triumph of modern architecture. The ascent to the roof of the church is so gradual that it can be reached by persons on horseback. The dome is 195 feet in diameter; and from its top the lofty Apennines, wreathed with snow, are visible. The vast roof seems like a village of workmen, whose houses there increase the illusion. As the eye sweeps over it, it is almost impossible to believe that one is on the top of a high building. But from the summit of the dome itself one best appreciates the stupendous size of the church. People moving on the distant pavement below look like motes rather than human beings. The yearly cost of repairs alone is said to be over $30,000.

St. Peter's is in the form of a Latin cross, flanked by noble colonnades forming two semi-circular porticoes, with 284 columns. On the entablature are 192 statues of saints, each 11 feet high. Crowning its front, stand 13 colossal statues, 17 feet high, representing Christ and the Apostles. The magnificent vestibule is reached by five entrances, and is 439 feet long.

The size of the interior is not at first apparent, owing to the huge statues. The eye, being unaccustomed to these great forms, insensibly imagines them of ordinary size, and thus supplies itself with a false standard by which to measure the spaces in the church. Perhaps, however, no other religious structure affects the mind with such awe and admiration as this vast cathedral, whose erection extended through the reigns of forty-six popes, and which covers a space of 240,000 square feet.

"But thou, of temples old, or altars new,
Standest alone—with nothing like to thee.
Worthiest of God, the holy and the true.
Since Zion's desolation, when that He
Forsook His former city, what could be,
Of earthly structures, in His honor piled,
Of a sublimer aspect? Majesty,
Power, glory, strength, and beauty, all are aisled
In this eternal ark of worship undefiled."

LXV.—ROME.

Great Rome! imperial city! thou hast been
Italia's ruler and the world's proud queen;
Strongly thou rear'dst thy monumental stones,
Unrivaled mistress of a thousand thrones!
But now they totter like thine own high pride,
While foes around thee exultingly deride;

And pilgrims from each far barbaric land,
Smile as beneath thy crumbling towers they stand;
For now no more they quail beneath the star
Which beamed above thy Cæsarean car!
No more they view Augustan pomp display
Thy triumphs grand along the crowded way.

Thou Moloch! lo! upon thy crimsoned shrine
The blood of nations cried 'gainst thee and thine;
Till retribution, with uplifted hand,
Snatched from thy vengeful grasp the murd'rous brand,
And crushed, with inextinguishable hate,
The guilty power which made earth desolate.
The teeming North sent forth her famished brave,
The Goth and Hun, to delve thy glory's grave;
And those who long were scorned, struck home the blow
Which laid, at last, th' Eternal City low,—
And bade the thunder-borne, re-echoing name
Shrink to a whisper of departed fame.

Yet, 'midst thy ruins, phantom-like, arise
Memorials of the brave, the great, the wise;
Yes, memory hath embalmed thy mighty name,
And breathes around thy hills undying fame;
Remembrance sacred makes thy deep distress,
And throws a halo around thy wretchedness!
Thou, too, Rienzi, last of Rome's great chiefs,
Who, 'midst the pressure of her mighty griefs,
Stood'st forth alone to raise her drooping power,
Shouting that name which made the nations cower,
Which nerved a Brutus to the desperate deed,
Which 'venged a Pompey, and made a Cæsar bleed.

What though the mighty spirit surely knew
To curb tumultuous factions as they grew?
What though thou snapp'dst asunder the dark chain
Of Despotism's most detested reign?
How wert thou 'guiled? History shall respond:—
"Rome was ingrate, and thou, alas! too fond!
Forth from her streets with thee forever fled
The ling'ring spirits of her mighty dead."

LXVI.—CAVES AND GORGES.

A gorge is practically only a cave with the roof taken off. In mountainous countries both are frequent; and the Alps of Europe present many specimens of this formation which are unrivaled in boldness and magnificence of scenery. Below the Alpine village of Val Orsine, in Switzerland, the valley of the same name narrows to a gorge, abounding in season with wild fruits. Through this a torrent forces its way into the more open valley below, acquiring in its course fresh force from the contributions of numerous water-falls and streams which descend from the glaciers above. The road is carried over the mountain side, and at one place a gallery is pierced through a rock, in a situation of singular grandeur, where it overhangs precipitously the dark valley beneath. In another place, through the wildest part of the ravine, the road passes under and quite out of sight of an overhanging rock.

The most tremendous and striking defile in all Switzerland is the Via Mala, through which a carriage road extends. The walls of rock are on each side 1,500 feet high, and often not more than ten yards apart. The Rhine, compressed within this narrow, stony bed, to the width of a pigmy rivulet, is barely audible as it rushes through its depths below the road. Three bridges in different parts of its route cross the Rhine, and of these the Middle Bridge is the most striking, from its graceful proportions and the boldness with which its light arch spans the dark and deep gulf below. Hereabouts the lofty precipices on the one side actually overhang those on the other, the direction of the chasm being oblique, and the smooth wall of rock on

either side being nearly parallel, and scarcely wider apart above than below. Looking over the parapet of this bridge, 400 feet high, the Rhine, reduced to a thread of water, is barely visible, boiling and foaming in the depths of its gorge.

There are numerous other gorges of almost equal interset in the vicinity. One, the Gorge du Moutiers, on the route to the famous warm springs of Torentaise, is very striking in its grandeur and picturesqueness. A short distance beyond the village of Aiqueblanche the road rises, and having passed the crest of a hill, descends into a deep defile that leads to Moutiers. Here the road is terraced along the steep slope of the gorge for some distance until it abruptly enters the basin of the Val Isère.

There are few natural objects which have awakened more curiosity, or more strongly affected the imagination than the hollow places, of various form and size, common in districts which have been subject to great physical disturbance. Their seclusion and gloom—their fantastic architecture—the effect of torch-light upon their numerous crystallizations—together with their unknown extent in many cases—all these contribute to invest the cavities of the earth with exciting interest.

We have only space here to notice one of these, namely, the Colleen Bawn cave, Ireland. This is one of the curiosities of the region where it is situated. The well-known Colleen Bawn rock, rising to a considerable height, has been gradually eaten out by the waves, until it is perforated in every direction, and, from one side, seems to stand only on a few insignificant pillars of rock. It can be entered in a boat, and its fissures have been pretty well explored by tourists in the neighborhood.

LXVII.—NEW YORK CITY.

There are a vast number of interesting objects in the metropolis of this country that are worthy of special description, but we are obliged to limit ourselves to a few of the more prominent. Among these the City Hall must, of course, be ranked. It occupies the center of the Park, in the lower part of the city, and is a very large, handsome building, in combined Ionic and Corinthian orders, of white marble, except on its northern side, and surmounted by a cupola, which is crowned by a statue of Justice. Its apartments are used as public offices, for the Mayor and other members of the city government. The principal apartment, called the Governor's Room, contains a fine collection of portraits of men celebrated in the civil, military, and naval history of the country.

The Hall of Justice, or City Prison, is an extremely massive granite building, of Egyptian architecture, and occupies an entire block. Its gloomy aspect has obtained for it the general name of "The Tombs." Its front has a recessed portico, supported by fourteen huge columns. It is chiefly occupied as a prison, though in part by the criminal courts, and in part as a police station.

In the United States, money is expended and taste displayed in stores, warehouses, etc., which in other countries would be devoted to objects of quite a different character. Our large cities contain palaces of trade, unequaled in magnificence anywhere in the world. The best representative of this class of buildings is Stewart's new store, covering an entire square, between Broadway, Ninth and Tenth streets, and Fourth avenue. The structure is of iron, and is supposed to be fire-proof.

There are eight public and a few private parks in the city. Of these the most noted is Central Park, containing 843 acres of ground, and extending from Fifty-ninth to One hundred and tenth street, two and a half miles long, and from Fifth to Eighth avenue, three-fifths of a mile wide. It contains drives, bridle-paths, foot-paths, play-grounds, ponds, lakes, exotic and native trees and plants, and presents all the features of a rural pleasure ground, twice as large as Hyde Park, in London.

Nature and art combine in Central Park to produce pleasing and beautiful effects. The lakes, the shade trees, and the sloping meads are artistically harmonized, and arranged with broad carriage drives, fountains, and terraces in endless variety. Of the latter, that which is called the marble terrace, is especially beautiful.

It is as the great center of commerce for half a continent, that New York derives its highest claim to pre-eminence. Its harbor is one of the most capacious in the world, and its facilities for interior communications are unrivaled by any commercial emporium of this or any former period. Nor have her merchants been satisfied to repose on its natural advantages, but have connected themselves by iron arms with every point of the compass; so that there are now deposited on their docks, and in their depots, the cotton, tobacco, and rice of the South, the lead, grain and pork of the West, and the wool, wheat and lumber of the North and East.

As a seat of trade, New York is now only surpassed by London, and in another century will probably be the commercial center of the world. Along its wharves, in every direction, may be seen forests of masts, where countless vessels of every description and from every quarter of the globe, pour their rich tribute into the lap of this queen of commercial cities. Steamers of such size, splendor, and speed as the world has never before seen, form regular lines of packets to every important foreign point, and daily

arrive and depart, freighted with merchandize and crowded with passengers.

Brooklyn, separated from New York by the East River, though having a corporation of its own, is really a part of that city, since the greater part of its residents do their business in New York. Brooklyn, of itself, is the third city of the country in population. The United States Navy Yard is located here, and covers forty-five acres of land on the south shore of Wallabout Bay. A high brick wall surrounds the yard; within it are two immense ship-houses, and the largest dry-dock in the country, built of granite, massive and substantial in structure, at a cost of $1,000,000.

LXVIII.—THE FALLS OF NIAGARA.

Now that I propose to attempt a description of the Falls of Niagara, I feel myself threatened with a return of those throbs of trembling expectation which agitated me on my first visit to those stupendous cataracts, and to which every person of the least sensibility is liable, when he is on the eve of seeing anything that has strongly excited his curiosity or powerfully affected his imagination.

The form of Niagara Falls is that of an irregular semicircle, about three-quarters of a mile in extent. This is divided into two distinct cascades by the intervention of Goat Island, the extremity of which is perpendicular, and in a line with the precipice over which the water is projected. The cataract on the Canada side of the river is

called the Horse-shoe or Great Fall, from its peculiar form, and that next the United States, the American Fall. The Table Rock, from which the Falls of Niagara may be contemplated in all their grandeur, lies on an exact level with the edge of the cataract on the Canada side, and, indeed, forms a part of the precipice over which the water gushes. It derives its name from the circumstance of its projecting beyond the cliffs that support it, like the leaf of a table. To gain this position, it is necessary to descend a steep bank, and to follow a path that winds among shrubbery and trees, which entirely conceal from the eye the scene that awaits him who traverses it.

When near the termination of this road, a few steps carried me beyond all these obstructions, and a magnificent amphitheater of cataracts burst upon my view with appalling suddenness and majesty. However, in a moment the scene was concealed from my eyes by a dense cloud of spray, which enveloped me so completely, that I did not dare to extricate myself. A mingled rushing and thundering filled my ears. I could see nothing, except when the wind made a chasm in the spray, and then tremendous cataracts seemed to encompass me on every side; while below, a raging and foamy gulf of undiscoverable extent lashed the rocks with its hissing waves, and swallowed, under a horrible obscurity, the smoking floods that were precipitated into its bosom.

At first the sun was obscured by clouds, but after a few minutes the sun burst forth, and the breeze subsiding at the same time, permitted the spray to ascend perpendicularly. A host of pyramidal clouds rose majestically, one after another, from the abyss at the bottom of the fall; and each, when it had ascended a little above the edge of the cataract, displayed a beautiful rainbow, which, in a few moments, was gradually transferred into the bosom of the cloud that immediately succeeded. The spray of the Great Fall had extended itself through a wide space directly over me, and

receiving the full influence of the sun, exhibited a luminous and magnificent rainbow, which continued to overarch and irradiate the spot on which I stood, while I enthusiastically contemplated the indescribable scene.

The body of water which composes the middle part of the Great Fall is so immense, that it descends nearly two-thirds of the space without being ruffled or broken; and the solemn calmness with which it rolls over the edge of the precipice is finely contrasted with the perturbed appearance it assumes after having reached the gulf below. But the water towards each side of the fall is shattered the moment it drops over the rock, and loses as it descends, in a great measure, the character of a fluid, being divided into pyramidal shaped fragments, the bases of which are turned upwards. The surface of the gulf below the cataract presents a very singular aspect; seeming, as it were, filled with an immense quantity of hoar-frost, which is agitated by small and rapid undulations. The particles of water are dazzlingly white, and do not apparently unite together, as might be supposed, but seem to continue for a time in a state of distinct comminution, and to repel each other with a thrilling and shivering motion which cannot easily be described.

The noise made by the Horse-shoe Fall, though very great, is far less than might be expected, and rises in loudness according to the state of the atmosphere. When the weather is clear and frosty, it may be distinctly heard at the distance of ten or twelve miles—nay, much further, when there is a steady breeze; but, I have frequently stood upon the declivity of the high bank that overlooks the Table Rock, and distinguished a low thundering only, which, at times, was altogether drowned amid the roaring of the rapids above the cataract. In my opinion, the concave shape of the Great Fall explains this circumstance. The noise vibrates from one side of the rocky recess to the other, and only a little escapes from its confinement; and even

this is less distinctly heard than it would otherwise be, as the profusion of spray renders the air near the cataract a very indifferent conductor of sound.

The road to the bottom of the Fall presents many more difficulties than that which leads to the Table Rock. After leaving the Table Rock, the traveler must proceed down the river nearly half a mile, when he will come to a small chasm in the bank, in which there is a spiral staircase enclosed in a wooden building. By descending this stair, which is seventy or eighty feet in perpendicular height, he will find himself under the precipice, on the top of which he formerly walked. A high but sloping bank extends from its base to the edge of the river; and on the summit of this there is a narrow, slippery path, covered with angular fragments of rock, which leads to the Great Fall.

The impending cliffs, hung with a profusion of trees and brushwood, overarch this road, and seem to vibrate with the thunders of the cataract. In some places they rise abruptly to the height of one hundred feet, and display upon their surface fossils, shells, and the organic remains of a former world; thus sublimely leading the mind to contemplate the convulsions which nature has undergone since the creation.

As the traveler advances, he is frightfully stunned by the appalling noise; for clouds of spray sometimes envelop him, and suddenly check his faltering steps; rattlesnakes start from the cavities of the rocks, and the screams of eagles soaring among the whirlwinds of eddying vapor, which obscure the gulf of the cataract, at intervals announce that the raging waters have hurled some bewildered animal over the precipice.

After scrambling among piles of huge rocks that obstruct his way, the traveler gains the bottom of the Falls where the soul can be susceptible of but one emotion, namely, that of uncontrollable terror. It was not until I had, by frequent excursions to the Falls, in some measure familiarized my mind

with their sublimities, that I ventured to explore the penetralia of the cataract. The precipice over which it rolls is very much arched underneath; while the impetus which the water receives in its descent projects it far beyond the cliff, and thus an immense Gothic arch is formed by the rock and the torrent.

Twice I entered this cavern, and twice I was obliged to retrace my steps, lest I should be suffocated by the blasts of dense spray that whirled around me; however, the third time I succeeded in advancing about twenty-five yards. Here darkness began to encircle me; on one side, the black cliff stretched itself into a gigantic arch far above my head, and on the other, the dense and hissing torrent formed an impenetrable sheet of foam, with which I was drenched in a moment. The rocks were so slippery that I could hardly keep my feet or hold securely by them; while the horrid din made me think the precipice above was tumbling down in colossal fragments upon my head.

It is not easy to determine how far an individual might advance between the sheet of water and the rock; but were it even possible to explore the recess to its utmost extremity, scarcely any one, I believe, would have courage to attempt an expedition of the kind.

A little way below the Great Fall the river is, comparatively speaking, tranquil, so that a ferry-boat plies between the Canadian and American shores for the convenience of travelers. When I first crossed, the heaving flood tossed about the skiff with a violence that seemed very alarming; but as soon as we gained the middle of the river, my attention was altogether engaged by the surpassing grandeur of the scene before me.

I was now within the area of a semicircle of cataracts, more than three thousand feet in extent, and floated on the surface of a gulf raging fathomless and interminable. Majestic cliffs, splendid rainbows, lofty trees, and columns of spray, were the gorgeous decorations of this theater of

wonders, while a dazzling sun shed refulgent glories upon the scene.

Surrounded with clouds of vapor, and stunned into a state of confusion and terror by the hideous noise, I looked upwards to the height of one hundred and fifty feet, and saw vast floods, dense, awful, and stupendous, vehemently bursting over the precipice, and rolling down, as if the windows of heaven were opened to pour another deluge upon the earth. Loud sounds, resembling discharges of artillery or volcanic explosions, were now distinguishable amidst the watery tumult, and added terrors to the abyss from which they issued. The sun, looking majestically through the ascending spray, was encircled by a radiant halo, whilst fragments of rainbows floated on every side, and momentarily vanished, only to give place to a succession of others more brilliant. Looking backwards, I saw the Niagara River, again become calm and tranquil, rolling magnificently between the towering cliffs that rose on either side, and receiving showers of orient dew-drops from the trees that gracefully overarched its transparent bosom.

There have been instances of people being carried over the Falls, but I believe none of the bodies ever were found. The rapidity of the river, before it tumbles down the precipice, is so great, that a human body would certainly be whirled along without sinking; therefore some of those individuals, to whom I allude, probably retained their senses till they reached the edge of the cataract, and even looked down upon the gulf into which they were the next moment precipitated.

One of the most interesting points in the neighborhood of the Falls is Terrapin Tower. This is an old shaky-looking building, set on a ledge of rock, near the edge of the Falls, and is approached from Goat Island by a wooden foot bridge. It is not very high, and there is a balcony at the top, where some half-dozen persons may stand at ease. Even at this spot, the Fall is not brought so fully before

your eye as it will be when you come to stand near it on the Canadian shore; but it shows itself more beautifully. Here no spray will reach you, although you are absolutely over the waters; while, on the Canadian side, the road, as it approaches the Fall, is wet and rotten with spray.

Nevertheless, the Canadian side offers many good outlooks. From the hill, shortly below the Falls, you may look directly into the full circle of the upper cataract, while you will have before you, at your left hand, the whole expanse of the lesser Fall. Here is the cave behind the Fall, into which persons can enter, and pass, by a rough and slippery path, toward Goat Island.

In the winter season, Niagara presents many features of grandeur not at other times disclosed. The ice, gathering at every available point, and often forming huge masses at the very edge and foot of the Falls, or rising in slender icicles to a great height, while the neighboring landscape is white with snow and frost, conveys a pleasing and a lasting picture to the mind.

LXIX.—NIAGARA.

I stood within a vision's spell;
I saw, I heard. The liquid thunder
Went pouring to its foaming hell,
And it fell,
Ever, ever fell
Into the invisible abyss that opened under.

I stood upon a speck of ground;
Before me fell a stormy ocean,
I was like a captive bound;
And around
A universe of sound
Troubled the heavens with ever-quivering motion.

Down, down forever—down, down forever,
Something falling, falling, falling,
Up, up forever—up, up forever,
Resting never,
Boiling up forever,
Steam-clouds shot up with thunder-bolts appalling.

A tone that since the birth of man
Was never for a moment broken,
A word that since the world began,
And waters ran,
Hath spoken still to man—
Of God and of Eternity hath spoken.

Foam-clouds there forever rise
With a restless roar o'erboiling—
Rainbows stooping from the skies
Charm the eyes,
Beautiful they rise,
Cheering the cataracts to their mighty toiling.

And in that vision as it passed,
Was gathered terror, beauty, power;
And still when all has fled, too fast,
And I at last
Dream of the dreamy past,
My heart is full when lingering on that hour.

LXX.—AMERICAN WATER-FALLS.

The front rank in the grandeur and number of cascades may be assigned to America. There is no fall in the world of such volume as Niagara, nor of such height as some in California. These will be elsewhere described.

Scattered over the broad region of the United States are hundreds of minor falls, each of which is possessed of considerable beauty, and often magnificence.

Among these may be mentioned the Falls of the Catskill, in the State of New York. The Catskill (often spelled Kauterskill) river is a small stream, descending from the mountains of the same name, by a series of cascades and an abrupt fall of 180 feet. The attraction of the place consists as much in the wildness of the surrounding scenery as in the beauty of the Falls themselves; and it is a favorite haunt for tourists and pleasure seekers during the summer months. The Falls are precipitated into a circular amphitheater, whose tangled thickets and rocky acclivities render it almost impenetrable, and from thence it takes a second leap into another chasm.

Genesee Falls, at Rochester, New York, though claiming great admiration from their natural beauty, are of greater importance by their utility in the aid of manufactures. The water-power furnished by the Falls has given motion to a large number of mills and factories, among which flouring mills so predominate as to confer upon Rochester the name of "Flour City."

The river, within a course of three miles, has a total descent of 226 feet, with three perpendicular falls of 95, 20, and 75 feet. The first of these is within the limits of the city, a little north of the center, and is considered one of the most beautiful cataracts in the State. Below the upper falls the broad river flows through a ravine more than 100 feet deep.

In the Southern States the vagaries of water are less marked than in the eastern and western sections of the country. There are few water-falls of note south of the Ohio river, this fact being due to the general lack of elevation in the land. It is true that the Alleghany system of mountains projects as far south as the State of Georgia;

but, with this exception, there are few parts of this whole region that can be called hilly.

On the summit of Lookout Mountain, in Tennessee, there is a picturesque water-fall formed by a small stream descending over a sharp ledge of rock into a rocky chasm beneath. Its solitude and wildness of scenery render the spot doubly attractive to whoever has had the fortune to view it.

LXXI.—PALESTINE.

The Holy Land, the theater of the most momentous events in the world's religious history, is but a strip of country less than 140 miles in length, and barely 40 in average breadth, hemmed in between the Mediterranean Sea on the one hand, and the enormous trench of the Jordan valley on the other. It is essentially a mountainous country; not that it contains independent mountain chains, as in Greece, for example, dividing one region from another, with extensive valleys and plains between them, but that every part of the highland is covered with hills. The mass of hills in the center of the country is bordered on all sides by a broad belt of lowland, sunk deep below its own level. The slopes or cliffs between the low and high lands are furrowed by the torrent beds which discharge the waters of the hills, and form the channel of communication between the two sections of country.

Such are some of the general physical features of the Holy Land at the present day. Many of the cities and villages that are mentioned in the Bible are existing to-

day, though in a far different condition. A few, like Jerusalem and Jaffa, are of comparative importance, but the most have sunk into mere ruins or squalid settlements.

The town of Nazareth is invested with a peculiar interest to the Christian world, as having been the spot where Jesus passed his boyhood. The position of the town itself cannot be called either fine or picturesque. High up among the hills that bound the plain of Esdrælon is a little valley, a mile long and a quarter of a mile in width. It is filled with corn-fields, and has a patch of gardens, enclosed by hedges of cactus, in the center; and it has olive trees sprinkled in clumps and singly throughout.

A line of rocky hill-tops encompasses it, and the white limestone of which they are composed is dotted and streaked with the foliage of fig-trees and wild shrubs. The side of the hill is steep, and its lower part, where it joins the plain, is seamed by three or four ravines. In these ravines and on the ridges between them, stands the village of Nazareth. The houses in some places seem to cling to the sides of precipices. The most prominent building is a Franciscan convent; and a little above it is a mosque, with a tall, white minaret.

Jerusalem stands on the summit of a broad mountain ridge, which extends from the plain of Esdrælon to the desert of Beersheba. The town is surrounded by walls, high and imposing in appearance, but far from strong. A single discharge of heavy artillery would lay them prostrate, yet they are sufficient to keep in check the roving Arab tribes and turbulent peasantry. To the walls there are five gates. The streets of Jerusalem are more regular than those of most Eastern cities, yet they are narrow and wretchedly paved, when paved at all. The population has been variously estimated, though its real census is about 16,000.

The principal religious sects are the Mohammedans, Jews, and Christians, of which the former predominate The great interest attached to Jerusalem is connected with

its historical associations. There is little in the character of its relics, or in its situation, to attract attention; but when viewed in the light of sacred history, it is one of the most interesting spots on earth. Every hill and vale, every fountain and grove, and almost every grot and stone has its story. Jerusalem attained its greatest pitch of power during the reign of Solomon.

It afterward passed through many changes of fortune, until it was plundered and burned by Nebuchadnezzar, King of Babylon. After fifty-three years of captivity, the Israelites were allowed to rebuild their city and temple. From this time until its destruction by the Romans, Jerusalem enjoyed comparative tranquility. Forty years after the Crucifixion, the Romans stormed the city, massacred, it is said, more than a million of Jews, and razed the temple to the ground. After that the city never regained its importance. It has been, since the seventh century, in the hands of the Mohammedans, though many attempts have been made for its delivery into Christian hands. The most notable of these were in the eleventh and twelfth centuries and have been known in history as the Crusades.

LXXII.—THE POWER OF ART.

When, from the sacred garden driven,
  Man fled before his Maker's wrath,
An angel left her place in heaven,
  And crossed the wanderer's sunless path;
'Twas Art! sweet Art!—new radiance broke
  Where her light foot flew o'er the ground,
And thus, with seraph voice, she spoke,—
  "The curse a blessing shall be found."

She led him through the trackless wild,
Where noontide sunbeams never blazed;
The thistle shrank, the harvest smiled,
And nature gladdened as she gazed,
Earth's thousand tribes of living things,
At Art's command to him are given;
The village grows, the city springs,
And point their spires of faith to heaven.

He rends the oak, and bids it ride,
To guard the shore its beauty graced;
He smites the rock, upheaved in pride,—
See towers of strength and domes of taste!
Earth's teeming cares their wealth reveal;
Fire bears his banner on the wave;
He bids the mortal poison heal;
And leaps triumphant o'er the grave.

He plucks the pear s that stud the deep,
Admiring beauty's lap to fill;
He breaks the stubborn marble's sleep,
And mocks his own Creator's skill.
With thoughts that fill his glowing soul
He bids the ore illume the page;
And proudly scorning Time's control,
Commences with an unborn age.

In fields of air he writes his name,
And treads the chambers of the sky;
He reads the stars, and grasps the flame
That quivers round the throne on high.
In war renowned, in peace sublime,
He moves in greatness and in grace;
His power subduing space and time,
Links realm to realm and race to race.

LXXIII.—TEMPLES OF INDIA.

In none of the fine arts, except architecture, have the Hindoos attained much eminence. Their paintings are of very little merit, though the walls of temples, of palaces, and of the better class of private dwellings, are often ornamented, at great cost, with pictures illustrating the characters and events of their mythology. More attention has been paid to sculpture than to painting, and in the temples, cut in the living rock, great numbers of statues are contained.

In many parts of Hindostan splendid monuments of architecture abound, most of them the works of past ages, and many of them of remote antiquity. Such are the temples at Ajmeer and elsewhere, some of which were built long before the Christian era, and are distinguished not only for size and splendor of ornamentation, but for symmetry, beauty of proportion, and refinement of taste. A wonderful example of the rock-temple is found in the great monolith at Kaloogoomulla. A passage, five feet wide and fifteen deep, having been cut into the granite rock, a large block has been completely detached from it, which has been carved into a most beautiful shrine.

The story goes that while the temple on the other side of the rock was in course of erection, the son of its builder, disgusted at the slow progress made by the workmen, one night suddenly disappeared; and when, in the morning, the father started in search of him, he found that he had in one night, alone and unaided, constructed this temple. Enraged beyond measure at his son's temple having so far exceeded his own in beauty he struck him to the ground, when the god, angry that any one should suffer for having

executed a work in his honor, sent a cobra to punish the father; but the son, as he lay on the ground, seeing the snake coming, seized the reptile by the throat, and thus, though dying, saved his father's life. The cut in the rock, to the left, is formed into steps to enable any one to descend to the monolith from the rock above.

The Madura Palace is composed of that curious admixture of Saracenic and Hindoo styles of architecture which the native princes of India very generally adopted in the seventeenth century. Though deficient in harmonious completeness, and wanting the elaborate finish of the Hindoo religious buildings, the combination is singularly picturesque, and has given rise to forms of great beauty.

A new white building has lately been erected by the English government, directly in front of the palace, for a Court House. The two towers belonging to the palace are at opposite corners of a quadrangle; and the domes are those covering the various halls and cloisters of the palace. They are surrounded by arched galleries, which were erected to enable the ladies of the court to look down upon the pageantry in the quadrangle on festival occasions, without being themselves observed.

One of the greatest sights in the city of Seringapatam is the Deria Dowlut, which was built by Tippoo Saib, about eighty or ninety years ago, as a sort of summer-house, whither he could retire when wearied with the cares and troubles of his government. It is very prettily situated in the middle of a beautiful garden, through which flows the river Cauvery. Some of the corridors are extremely elegant in their ornamentation, and are remarkable for the brightness and harmony of their coloring. The doorways, both above and below, are entrances to the large rooms that occupy the center of the building.

LXXIV.—FAMOUS CATHEDRALS IN EUROPE.

Fifty-four out of the two hundred churches of St. Petersburg are of the Russian Greek faith. In general they powerfully attract attention by their striking though barbarous architecture. They have generally an assemblage of five domes—a large one in the center, surrounded by four smaller ones—these portions of the edifice being in most cases gilded, and glittering in the sun. The tall and slender bell-tower is often detached altogether from the body of the church. Sometimes their buildings are of great extent, though they usually possess neither grace nor grandeur; neither symmetry nor majesty; not even the cheap virtue of magnitude, which in architecture so lightly covers a multitude of sins.

Neither, when you enter in, is there anything of any kind that could answer the demands of a well cultivated taste. Nevertheless you are pleased, or rather you are gratefully overwhelmed. There is a massive solidity about the piers which inspires respect; but these piers and the whole surface of the walls are so plated with burnished metal, and so figured with rich ornament, that you stand in reverent wonderment, and feel that criticism would be an impiety. Before you rises the Iconostasis, or screen, as we call it, tier above tier up to the very roof, with the marshaled history of a whole army of prophets, patriarchs, saints and apostles, and especially, of course, the all-holy Virgin, blazing with gold. Then casting the eye round, the rich storied scenery of the walls literally deters the eye from all attempt to follow out its significance.

The monuments of saints, or other highly worshipped personages, generally stand in the corner of the church.

In two long rows sit the various priestly dignitaries in the middle of the church, before the screen, clad in vestments crisp with gold, and crowned with mitres, in which every jewel has its place, venerable-looking gentlemen, with long hair parted in the middle; the music—for all the service is chanted—if somewhat monotonous, is rich and pleasant; and above the softer notes of the choir is ever heard the deep heavy boom of a bass voice, which sounds more like a gong than anything one is accustomed to hear from human throats. Besides music, bells of course, and candles, and genuflexions, and crossings, give character to the service. Anything like our sermons exists only on rare occasions, and in very dwarfed dimensions; but if the understanding is not specially addressed, there is nothing in the performance of a nature to disturb a devout or offend a fastidious worshipper.

Among the public buildings of Milan, the great Cathedral is the most remarkable. It is the largest church in Italy except one. This stupendous marble pile is 486 feet in length, and 288 feet in breadth. The topmost pinnacle is 355 feet high. It is built of white marble, and is probably the finest and most impressive Gothic cathedral in Europe. More than five thousand statues have place on the walls, turrets, and pinnacles. The floor is composed of pieces of marble in different colors. Richly ornamented galleries connect the towers. A winding stairway of two hundred steps rises to the roof, diversified by a labyrinth of pillars, from the center of which springs the majestic dome. Large glided stars glitter on the topmost pinnacles.

Within the building, the character is that of a cheerful solemnity. Perhaps no other edifice so thoroughly conveys the idea of wealth poured out unreservedly for the service of religion. All parts are finished minutely and exquisitely. This mountain of white marble is never more beautifully displayed than under the glowing sun of an Italian evening. From its varied plan, some parts are always in light, and

others in shade. When the pinnacles and statues intercept the yellow beams, they come off sharp and dark against the brilliant sky; and in the other directions, when the light streams on the white marble building, it glitters like silver, almost too dazzling to be looked upon.

The first stone of this immense building was laid nearly five hundred years ago. Slowly has the fabric continued growing in beauty; and it is still unfinished. Since its foundation, work has never been suspended upon it. The scaffolds have always been standing in some part of the cathedral, and the mallet striking and the chisel ringing. And the work will doubtless go on for generations to come, as it has during centuries past.

The Cathedral of St. Paul's, on Ludgate Hill, in London, was founded in 1675, and completed in 1710. It is classic in style and peculiarly grand in effect. While St. Peter's at Rome occupied nearly 150 years in building, under twelve successive architects, the whole of this church was reared under Sir Christopher Wren, its designer, and by one master-mason. It covers two acres; its length is 510 feet, width 250 feet, and height 370 feet; and it is the fifth cathedral in Europe, in size. The Portland stone of which it is built is now much darkened by time and smoke; and this gloomy tint seems to accord with the solemn dignity and grandeur of the building. The faultless dome is thrice the height of the roof, and contains the noted "whispering gallery." In the southwest tower is the great bell, the diameter of which is ten feet.

The interior presents an imposing aspect, though dimly lighted, and not so profusely ornamented as many of the churches on the continent. In the transept, beneath the dome, the feeling is that of wonder at the unity, majesty, and sublimity of the architecture. In the cathedral crypt are the tombs of Nelson and Wellington. A marble slab, in honor of the architect, is placed over the entrance of the choir, which bears an inscription signifying, "If you ask for

my monument, look around." The whole church is a structure of simple grandeur and is a noble monument to the genius of its architect.

Westminster Abbey, after St. Paul's the finest ecclesiastical edifice in London, and one of the best specimens of the pointed style in England, dates from the reign of Edward I and Henry III, when it was erected on the site of the Saxon Minster, founded by Lebert. Like most cathedrals, it is in the form of a cross, though somewhat irregular, from the additions of chapels and cloisters at various times. The chapel of Henry VII forms the eastern extremity of the cross. This contains some of the most elaborate and beautiful tracery work and designs anywhere existing.

In Westminster Abbey the kings and queens of England have been crowned, from Edward the Confessor to Queen Victoria. In the south transept are the tombs and honorary monuments of great poets, whence it is called "Poets' Corner;" and in other parts are numerous sculptured monuments to statesmen, warriors, philosophers, divines, patriots, and men of eminence generally, many of whom are interred within its walls.

LXXV.—OLD EUROPEAN CASTLES.

Warwick Castle, England, the interior of which has been lately destroyed by fire, has long been considered the finest relic of feudal architecture and baronial splendor in Great Britain. Standing on the classical river Avon, and built

ten centuries ago, in the time of King Alfred, it witnessed the long struggle for the possession of the land between the Saxons and their Norman oppressors, which finally resulted triumphantly for the latter. It became the seat of the Warwicks in the early rule of William the Conqueror.

The solid masonry of feudal times was more fire-proof than our so-called modern city structures, and did not yield to the flames; but the ivy which mantled the castle-walls, the ancient and magnificent works of art in the interior, and the relics which linked it to the scenes and struggles of disputing centuries, have been destroyed. Piles of armor and suits of mail which did duty in the crusades; portraits of a long line of illustrious ancestry; and, not least of all, the celebrated Warwick vase, which was once a part of the ornamentation of Adrian's villa, all must be reckoned in the general ruin. The castle stood but five miles from the celebrated Kenilworth Castle described by Sir Walter Scott, and its loss is one which interests the Christian world.

On the road from Turin to Cormageur, in Italy, lies the valley D'Aosta, and on an eminence therein, close to the river Doire, may be seen the white walls of Fort Bard. This military position is celebrated for the temporary check which it gave to the advance of the French army under Bonaparte, in 1800. It was garrisoned by only 400 Austrians, yet such was the strength of the position that Bonaparte almost despaired of carrying it, and a few days more must have starved his army into a retreat.

By a gallant manœuvre, however, in the efficient placement of a single gun above the precipices of Mont Albaredo, which overhangs the fort, they checked the battery which covered the approach to the town, and the army passed by night under the grenades of the fort. Another gun was raised to the belfrey which commanded the gate of the fort, and the Austrians, fearing an assault, surrendered. Upon such slight occurrence the fate of Europe turned. As the French army would have devoured all the supply of the Val

D'Aosta in a few days, it must have retreated, and the battle of Marengo, one of the most brilliant events of French history would not have been fought. Within a few years the fort has been greatly strengthened, and it is now considered invulnerable.

Bozen a town with 10,000 inhabitants, lying at the junction of roads from Germany, Italy, and Switzerland, is the most important commercial town in Tyrol. It is delightfully situated at the confluence of the Eisack and the Talfer rivers. Most of the houses have openings in the roofs, covered by projecting eaves, to admit light and air. Many of the streets are traversed by channels of fresh water, which in summer contribute in some degree to mitigate the oppressive heat.

A very interesting walk from the town is through the Sarnthal, a little valley watered by the Talfer. A little way up the valley is the old castle Runglstein, with its inevitable white walls glittering in the sun. The castle contains a number of curious mediæval frescoes, relating to the legendary poem of Tristram and Iseult. Engravings of these frescoes have been published by the museum of Innsbruck. The structure is now in a dilapidated condition, containing a few apartments only. There is a magnificent view from the castle tower, especially by evening light, embracing the valley of the Sarn a distance of twenty miles.

The picturesque and renowned castle of Chillon stands on an isolated rock, surrounded by the deep waters of Geneva Lake, but within a stone's throw of the shore and of the road, with which it communicates by a wooden bridge. It was built in 1238 by Amadeus IV of Savoy, and was long used as a state prison, where, among other victims many of the early reformers were immured. The famous Prisoner of Chillon, described by Byron in one of his best poems, was Bonnivard, prior of St. Victor, who, having rendered himself obnoxious to the Duke of Savoy by his exertions to free the Genevese from the Savoyard yoke, was seized by the Duke's emissaries, and secretly carried off to this castle.

For six long years he was buried in its deepest dungeon, on a level with the surface of the lake. At length the Swiss freed themselves from the rule of Savoy. Chillon was the last place that held out, but was at last compelled to surrender, and Bonnivard was set free. The changes which had occurred during the years of his imprisonment almost realized the legend of the Seven Sleepers. He had left Geneva a Roman Catholic state, and dependent on the Duke of Savoy; he found her free and a republic, and openly professing the Reformed faith.

LXXVI.—THE PRISONER OF CHILLON.

They chained us each to a column stone,
And we were three,—yet each alone;
We could not move a single pace,
We could not see each other's face,
But with that pale and livid light
That made us strangers in our sight;

And thus together—yet apart,
Fettered in hand, but pined in heart;
'Twas still some solace, in the dearth
Of the pure elements of earth,
To hearken to each other's speech,
And each turn comforter to each
With some new hope or legend old,
But even these, at length, grew cold.

I was the eldest of the three,
And to uphold and cheer the rest,
I ought to do—and did—my best,
And each did well in his degree.

The youngest, whom my father loved,
Because my mother's brow was given
To him—with eyes as blue as heaven,
For him my soul was sorely moved;
For he was beautiful as day,
And in his natural spirit gay;
With tears for naught but other's ills,
And then they flowed like mountain rills,
Unless he could assuage the woe
Which he abhorred to view below.

The other was as pure of mind,
But formed to combat with his kind;
Strong in his frame, and of a mood,
Which 'gainst the world in war had stood,
And perished in the foremost rank
With joy; but not in chains to pine—
His spirit withered with their clank—
I saw it silently decline.

He loathed and put away his food—
It was not that 'twas coarse and rude,
For we were used to hunter's fare,
And for the like had little care:
The milk drawn from the mountain goat,
Was changed for water from the moat;
Our bread was such as captive's tears
Have moistened many a thousand years,
Since man first pent his fellow-men
Like brutes within an iron den.

But what were these to us or him?
These wasted not his heart or limb;
My brother's soul was of that mold,
Which in a palace had grown cold,
Had his free breathing been denied
The range of the steep mountain's side;
But why delay the truth?—HE DIED.

I saw and could not hold his head,
Nor reach his dying hand—nor dead,—
Though hard I strove, but strove in vain
To rend and gnash my bonds in twain.
He died, and they unlocked his chain,

And scooped for him a shallow grave,
Even from the cold earth of our cave.

I begged him, as a boon, to lay
His corse in dust whereon the day
Might shine—it was a foolish thought—
But when within my brain it wrought,
That even in death his free-born breast
In such a dungeon could not rest.
I might have spared my idle prayer—
They coldly laughed—and laid him there;
The flat and turfless earth above
The being we so much did love—
His empty chain above it leant,
Such murder's fitting monument.

But he, the favorite and the flower,
Most cherished since his natal hour,
His martyred father's dearest thought,
My latest care, for whom I sought
To hoard my life, that his might be
Less wretched now, and one day free;
He, too, was struck, and day by day
Was withered on the stalk away.

O God! it is a fearful thing
To see the human soul take wing,
In any shape, in any mood;
I've seen it rushing forth in blood;
I've seen the sick and ghastly bed
Of sin delirious with its dread;
But *these* were horrors—*this* was woe
Unmixed with such, but sure and slow.

He faded, and so calm and meek,
So softly worn, so sweetly weak,
So tearless, yet so tender, kind,
And grieved for those he left behind;
With all the while a cheek whose bloom
Was as a mockery of the tomb;
Whose tints as gently sunk away
As a departing rainbow's ray;

An eye of most transparent light,
That almost made the dungeon bright.
And then the sighs he would suppress
Of fainting nature's feebleness;
I listened, but I could not hear—
I called, for I was wild with fear;
I called, and thought I heard a sound,—
I burst my chain with one strong bound,
And rushed to him. I found him not,
I only stirred in this black spot,
I only lived, I only drew
The accursed breath of dungeon dew,
The last, the sole, the dearest link,
Between me and the eternal brink,
Which bound me to my failing race,
Was broken in this fatal place.

What next befel me then and there,
I know not well, I never knew,
First came the loss of light and air,
And then of darkness, too.
There were no stars, no earth, no time,
No check, no change, no good, no crime;
But silence, and a stirless breath
Which neither was of life nor death.

A light broke in upon my brain—
It was the carol of a bird;
It ceased, and then it came again,
The sweetest song ear ever heard;
And mine was thankful till my eyes
Ran over with the glad surprise;
But then, by dull degrees came back
My senses to their wonted track;
I saw the dungeon walls and floor
Close slowly round me as before;
I saw the glimmer of the sun,
Creeping as it before had done;
But through the crevice where it came,
That bird was perched as fond and tame,
And tamer than upon the tree—
A lovely bird with azure wings,
And song that said a thousand things,
And seemed to say them all for me!

I sometimes deemed that it might be
My brother's soul come down to me;
But then at last away it flew,
And then 'twas mortal, well I knew;
For he would never thus have flown,
And left me twice so doubly lone.

A kind of change came in my fate,
My keepers grew compassionate.
I know not what had made them so,
They were inured to sights of woe;
But so it was; my broken chain
With links unfastened did remain;
And it was liberty to stride
Along my cell from side to side,
Avoiding only, as I trod,
My brothers' graves without a sod.
I made a footing in the wall—
  It was not therefrom to escape;
For I had buried one and all
  Who loved me in a human shape,
And the whole earth would henceforth be
A wider prison unto me;
But I was curious to ascend
To my barred windows, and to bend
Once more, upon the mountains high,
The quiet of a loving eye.

I saw them, and they were the same,
They were not changed like me in frame;
I saw their thousand years of snow
On high—their wide, long lake below;
And then there was a little isle,
Which in my very face did smile,
  The only one in view.

The fish swam by the castle wall,
And they seemed joyous, each and all;
The eagle rode the rising blast,—
Methought he never flew so fast
As then to me he seemed to fly;
And then new tears came in my eye,
And I felt troubled—and would fain
I had not left my recent chain;
And when I did descend again,

The darkness of my dim abode
Fell on me as a heavy load;
It was as is a new dug grave
Closing o'er one we sought to save.

At last men came to set me free,
I asked not why, and recked not where;
It was, at length, the same to me
Fettered or fetterless to be;
I learned to love despair.
And thus when they appeared at last,
And all my bonds aside were cast
These heavy walls to me had grown
A hermitage—and all my own!
And half I felt as they were come
To tear me from a second home!

With spiders I had friendship made
And watched them in their sullen trade,—
Had seen the mice by moonlight play,
And why should I feel less than they?
We were all inmates of one place,
And I, the monarch of each race,
Had power to kill—yet, strange to tell!
In quiet we had learned to dwell;
My very chains and I were friends,
So much a long communion tends
To make us what we are!—even I
Regained my freedom with a sigh.

LXXVII.—ADVENTURES ON A VOLCANO.

The volcano of Vesuvius is situated on the shore of the bay of Naples, and rises in a single cone-shaped mass to the height of 4,020 feet, from a base about thirty miles in

circumference. Its first recorded eruption, in A. D. 79, destroyed the cities of Herculaneum, Pompeii, and Stabiæ, the uncovered ruins of which are such a scene of interest at the present day. Other eruptions, some of which were very violent, have taken place at intervals since then.

We add some interesting accounts of ascents of this celebrated volcano during its eruptions, made by Mr. Babbage, and afterward by another Englishman, and recorded in a London journal. When Mr. Babbage reached the summit of the cone, the sun had not risen. An obscure twilight still prevailed, as he and his companion stood upon the irregular edge of a vast gulf, spread out below at the depth of about 500 feet.

The plain at the bottom would have been invisible, but for an irregular network of bright, red cracks, extending over its entire surface. At intervals the silence was broken by the upward rush of a flight of red-hot ashes from the diminutive crater within the large one. As the morning advanced, the light increased; and some time before sunrise the adventurers had completed the circuit of the crater. Then followed that magnificent spectacle—sunrise from the top of a lofty mountain.

The two explorers had brought with them a supply of ropes, and, in their tour round the crater, had carefully marked every dike of congealed lava by which the massive cone was split. These presented buttresses, with frequent ledges, or huge steps, by which they hoped, with the aid of their ropes, to let themselves down in the crater. They were compelled, by the abrupt incline of the rocky buttresses, to have recourse to ropes; but any attempt to traverse the steep slopes of light ashes and fine sand would have been far more dangerous, from the risk of being engulfed in them.

Having thoroughly examined the several disadvantages of these rough-hewn, irregular, and gigantic stairs, one was selected as offering the best chances for the descent into the

crater. They began the descent by two ropes, each steadied by a couple of guides. The adventurers first planted their feet wherever they could find a vantage-point; then, holding on to the rope, sprang down to the next ledge. In this manner they proceeded, step by step, until they gained the last projection of the dike, when nothing more remained but to let themselves slide down the long steep incline of smooth shifting sand.

They accomplished the rapid descent in safety, and Mr. Babbage and his companion found themselves standing on the burning plain. The area of this plain was perfectly flat. Its surface consisted of a black rock, with a network of ditches from one to three feet wide, which crossed one another in every direction. From some of these arose the most disagreeable odors. All above two feet in depth showed a bottom of dull red heat, and it was these glaring heated fissures which had presented the extraordinary spectacle described above.

At one end was a small cone from which the eruptions apparently proceeded. On observing them accurately, it was found that they occurred at tolerably regular intervals; but the observers were compelled to maintain a respectful distance, out of the reach of the red-hot ash-showers. During the ten to fifteen minutes, however, between each explosion, Mr. Babbage was able to make a rush toward the opening in this subsidiary crater, and to look down upon the liquid lava seething and boiling in its natural caldron.

"Presently," he says, "I observed a small bubble swelling up on the surface of the lava; it became gradually larger and larger, but did not burst. I had some vague suspicion that this indicated a coming eruption; but, on looking at my watch, I was assured that only one minute had elapsed since the termination of the last. I therefore watched its progress; after a time the bubble slowly subsided without breaking. Another swelling now rose about half-way distant from from the center of the caldron, which enlarged

much beyond its predecessor in point of size. It attained a diameter of about three feet, and then burst, but not with any explosion.

The waves it propagated in the fiery fluid passed on to the sides, and were thence reflected back, just as would have happened in a lake of water of the same dimensions. This phenomenon reappeared several times, some of the bubbles being considerably larger in size, and making proportionally greater disturbance in the liquid of this miniature crater. I would gladly have remained a longer time, but the excessive heat, the noxious vapors, and the warning of my watch, forbade it. I climbed back through the gap by which I descended, and rushed as fast as I could to a safe distance from the coming eruption. If my memory does not fail me, I passed about six minutes in examining it, and the next explosion occurred ten minutes after the former one. On my return to Naples, I found that a pair of thick boots I had worn on this expedition were entirely destroyed by the heat, and fell to pieces on my attempt to take them off."

The other ascent, which is described below, was made during an eruption, where crash was following crash in a manner that was sufficiently terrible. All the suffocating steams and vapors were being driven to one side of the mountain by a strong wind, so that the adventurers were able to go up from the windward side, stand upon the lip of the crater, look down into the roaring abyss, and see what a volcanic eruption looked like on the spot.

The spectacle is full of awe and majesty. The suddenness with which you come upon it is quite startling. Going up you neither see nor hear anything. One moment you are clambering up the side of the cone amid profound silence; the next moment, as your head rises above the crater-lip, you encounter a roar and a blaze which makes you shrink back a little. This surprise is probably occasioned by the formation of the crater. It is a huge bowl, which comes up to quite a sharp lip, about half a mile in diameter and some hundred yards in depth.

Toward the bottom of this bowl, on the opposite side to where we stood, was a great hole, from which all the projectiles of the eruption were shot; the surface of the bowl being composed of lumps of lava, stones, and cinders, all of them smeared with sulphur, precisely like those upon which we were standing. As you mount the cone, there is between you and the gulf an enormous wall, which dulls everything alike for eye and ear. Even while on the steeps of the cone itself, you might be unaware that the mountain was disturbed. But a single step seems almost enough to transfer you from the most deathlike stillness to the grandest exhibition of force it is possible to conceive.

Instead of the monotonous dull black of congealed lava on the lower levels, you have the deep brick-red of stones that have been under the action of fire, the brightest vermilion, and every imaginable shade of orange and yellow that sulphur deposits are capable of taking. The ground is hot, too; so hot, indeed, that you cannot keep your foot on the same spot for many seconds together. Between the chinks of the stones you can see that a few inches below the surface it is actually red-hot. You thrust in the end of your stick for a moment, and pull it out charred.

Over all the further half of the crater there hangs a dense cloud of smoke and vapor; all around you there is an atmosphere of sulphur which sets you coughing; from numberless small holes about your feet there issue, with a hiss, sulphurous jets of steam, which nearly choke you as you pass over them; and then as you look down into the actual abyss, you are face to face with the most appalling sights and sounds which, perhaps, the whole of Europe has to offer.

Among the crowd of strange sensations that are experienced at such a time, the sounds are, perhaps, the most wonderful of all. What meets the ear is, if anything, even more terrific than what meets the eye. Even to sight the eruption is not exactly what the imagination paints it be-

forehand. It does not consist, as the pictures necessarily lead one to suppose, of a continuous shower at all. Still less does it consist of a continuous shower of black ashes, shot out from a fire blazing on the top of the mountain: it is rather a series of explosions. But the roar and glare of the great abyss is continuous.

You look into the pit, and though you see no actual flame, yet its sides are in a state of constant burning; from the mouth of it there roars up incessantly a dense cloud of steam; and in the depths of it below you hear the noise of preparation for the outburst that is next to come. Then you hear a sharper crackle, and then, without further warning, follows a loud explosion, which shoots into the air a torrent of white-hot missiles of every shape and size. So enormous are the forces at work that not only small pieces of stone and sulphur, such as you might carry away as mementoes of your visit, but huge blocks of mineral, each enough to load a railway car, and all in a state of perfectly white heat, are tossed up as though they were so many cricket balls.

The explosion lasts, perhaps, no longer than a minute; and then there is a cessation of some seconds, with the noise only of internal preparation once more, after which the explosion is repeated. So it goes on again and again, as long as the eruption continues. The noise that accompanies the shooting upward of these huge stones, which from below seem to be thrown up in profound silence, is something quite without a parallel in ordinary experience.

One of our party said he had been shipwrecked three times, and the crash of the waves against the timbers of a helpless ship was one of the most terrible accompaniments of such scenes; yet that was nothing to the almost stupefying din that was going on before us—moments when the daylight was over, and the world could no longer be distinguished—when we had nothing but the clear starlight overhead, and were truly alone with the mountain, when

the varied coloring of the ground had disappeared in the darkness, and nothing could be seen but the gleam of the burning earth through the chinks at our feet; while the white-hot glaring ribbon of molten lava glided languidly down the mountain at our side, and before us was the flashing of the inner fire upon the cloud of vapor overhanging the abyss.

LXXVIII.—PALACES IN PRUSSIA.

Berlin, the capital of Prussia, stands on the Spree, a small stream with a sluggish current. Its population is about 700,000. The city is situated in the midst of a dreary plain of sand, destitute of either beauty or fertility. It is surprising that the foundation of a town should ever have been laid on so uninteresting a spot; but it is far more wonderful that it should have grown up, notwithstanding, into the flourishing capital of a great empire. Its rise and increase date not many years before the commencement of the last century.

Previous to the time of Frederick William I, Berlin was an unimportant town, but since that time its population has increased ten-fold. Frederick the Great, being ambitious to possess a capital proportionate to the rapid increase of his dominions, at once enclosed a vast space with walls, and ordered it to be filled with houses. As the population was scanty, the only mode of complying with the wishes of the sovereign was by stretching the houses over as wide a space as possible. The streets are therefore broad, and generally appear empty.

Berlin has been justly termed a city built for effect, all that is beautiful being concentrated into one focus. Notwithstanding its disadvantages, it is certainly one of the finest appearing cities in Europe. Few European capitals can show so much architectural splendor as is seen in the colossal palace, the beautiful colonnade of the new Museum, and the University. Most of these buildings are situated in the street named "Under the Lindens," from a double avenue of lime-trees, which form a shady walk in its center, while on each side of it runs a carriage road. It is the principal and most frequented street in this city. The view along it, terminated by the magnificent Brandenburg Gate, is scarcely surpassed even by the celebrated prospect from the quay of the Louvre, at Paris.

Among all its public buildings, the Royal Palace is most conspicuous, from its size and beauty of architecture. It is indebted to its vastness for a certain air of grandeur which its exterior possesses. Within it is sumptuously furnished. In the Rittersaal (Knight's Hall), a splendid apartment, is the throne, and a sideboard covered with massive old plate of gold and silver. Glittering chandeliers overhang the table, and the walls are covered with a profusion of ornaments. Seats of velvet await the honored guest, and everything is served in a style of royal magnificence.

The picture gallery, on the upper story of the building, is divided into numerous small apartments by screens, extending from between the piers of the windows nearly to the opposite walls. The Berlin Gallery ranks below those of Munich and Dresden in the number of celebrated masterpieces and works of first-rate excellence, but it has this particular recommendation, that it has good specimens of a greater number of masters, especially of the early German and Italian schools, than almost any other gallery.

Potzdam, the Prussian Versailles, owes all its splendor to Frederick the Great. It may be called a town of palaces, not only from the number of royal residences, but because

even the private houses are copied from celebrated edifices. The New Palace, about two miles from the town, is a vast brick building, erected at enormous cost by Frederick, at the end of the seven years' war, to show his enemies that his finances were not exhausted. It contains two hundred apartments, and exhibits many remains of gaudy magnificence, marble being lavished profusely on the walls and floors.

LXXIX.—PALACES IN SPAIN.

In beauty and variety of its scenery, Spain falls little short of Tyrol and Italy; it contains some of the finest buildings, and has given birth to some of the greatest artists in Europe, while it is at the same time interesting for its historical associations. The peninsula, now forming the kingdoms of Spain and Portugal, was first visited by the Phœnecians, and afterward by the Carthagenians. It was conquered by the Romans, after a resistance of two centuries. During eight centuries, the Christian princes were engaged in continual warfare with the Saracens. From this state the country was delivered, under Ferdinand and Isabella, by the conquest of Grenada. These foreigners, however, left their mark on the country and on the Spanish people.

One of the finest relics in the world is the Alhambra, the palace of the old Moorish kings. It stands on a lofty eminence, between the rivers Darro and Jenil. It was built by Mohammed II, about 1273 A. D. It is surrounded by

a strong wall flanked by square towers, and inclosing an area of 2,500 feet in length and 650 in breadth. The walls of the palace follow all the windings of the mountain. The ascent to the palace is between the hills of the Alhambra, through a very thick wood of lofty elms, the branches of which are so interleaved, that the rays of the sun never penetrate their thick foliage. Innumerable clear rivulets glide through the forest, irrigating the ground, which is covered with verdure, or fall from rock to rock, forming a number of beautiful cascades.

At the palace, you enter first into an oblong court of 150 by 90 feet in length, with a basin of water in the midst. Hence, you pass into the Court of Lions, which may be considered as the type of Arabian architecture. It is 100 feet by 60, and is paved with white marble. In the center is a large basin of alabaster supported by twelve lions. Over this basin rises another smaller one, from which a large body of water spouts into the air, and, falling from one basin into the other, is sent forth through the mouths of the lions. This court is surrounded by a gallery supported by a great number of slender and elegant columns. The walls are covered with blue and yellow mosaics. The ceiling is beautifully ornamented with arabesque and fretwork in the most exquisite taste. Around the upper face of the fountain of the lions are some Arabic verses which describe, in a style of Oriental hyperbole, the wonders and beauty of the fountain.

Over the entrance to the Hall of Justice is inscribed the following sentence: "Enter, fear not, seek justice, and justice thou shalt find." This hall is one of the richest in the Alhambra, and still possesses traces of its past splendor. The walls are richly stuccoed, and ornamented with arabesques of such exquisite workmanship, that the most skillful artist would be greatly embarrassed to imitate it.

The Escurial, the royal palace of Spain, was erected by Phillip II, in 1557. Its situation is rocky and barren, de-

void of all vegetable matter, except that conveyed thither by man, and appears to have been chosen for the advantage of procuring stone. By a fantastical conception, in accordance with the ideas of the times, the ground-plan was laid out in the form of a gridiron. The gardens, which are extensive, and the parks formed by art, are decorated with fountains. The stone of which the building is constructed is white with dark-gray spots. The palace contains vast galleries, ornamented with tapestry, and some paintings. The Escurial is probably the greatest architectural undertaking ever conceived and executed by one man; yet in spite of its colossal proportions, the building offers an aspect by no means imposing. The windows have been considered too small and the projections deficient in boldness.

The Royal Palace at Madrid, a magnificent building of white stone, is considered one of the finest royal residences in Europe. It stands on the site of the old Alcazar, a palace inhabited by Philip II, which was burnt to the ground in 1734. The interior is decorated in a style of costly magnificence. On the south side of the palace is the royal armory, which contains the greatest treasures of historical weapons in the world. The building is 470 feet long and 100 feet high.

LXXX.—THE ALHAMBRA BY MOONLIGHT.

I have given a picture of my apartment on my first taking possession of it. A few evenings here produced a thorough change in the scene and in my feelings. The moon, which then was invisible, has gradually gained upon the nights, and now rolls in full splendor above the towers,

pouring a flood of tempered light into every court and hall. The garden beneath my window is greatly lighted up; the orange and citron trees are tipped with silver; the fountain sparkles in the moonbeams; and even the blush of the rose is faintly visible.

I have sat for hours at my window, inhaling the sweetness of the garden, and musing on the checkered features of those whose history is dimly shadowed out in the elegant memorials around. Sometimes, I have issued forth at midnight, when every thing was quiet, and have wandered over the whole building. Who can do justice to a moonlight night in such a climate and in such a place?

The temperature of an Andalusian midnight in summer is perfectly ethereal. We seem lifted up into a purer atmosphere; there is a serenity of soul, a buoyancy of spirits, an elasticity of frame, that render mere *existence*, enjoyment. The effect of moonlight, too, on the Alhambra, has something like enchantment. Every rent and chasm of time, every mouldering tint and weather-stain, disappears; the marble resumes its original whiteness; the long colonnades brighten in the moonbeams; the halls are illuminated with a softened radiance, until the whole edifice reminds one of the enchanted palace of an Arabian tale.

At such a time, I have ascended to the little pavilion, called the queen's toilet, to enjoy its varied and extensive prospect. To the right, the snowy summits of the Sierra Nevada would gleam, like silver clouds, against the darker firmament, and all the outlines of the mountain would be softened, yet delicately defined.

My delight, however, would be to lean on the parapet of Tecador, and gaze down upon Grenada, spread out like a map below me; all buried in deep repose, and its white palaces and convents sleeping, as it were, in the moonshine.

Sometimes, I would hear the faint sounds of castanets from some party of dancers lingering in the Alameda; at other times, I have heard the dubious notes of a guitar, and

the notes of a single voice rising from some solitary street, and have pictured to myself some youthful cavalier serenading his lady's window; a gallant custom of former days, but now sadly on the decline, except in the remote towns and villages of Spain.

Such are the scenes that have detained me for many an hour loitering about the courts and balconies of the castle, enjoying that mixture of reverie and sensation which steal away existence in a southern climate, and it has been almost morning before I have retired to my bed, and been lulled to sleep by the falling waters of the fountain of Lindaraxa.

LXXXI.—GIBRALTAR.

The town of Gibraltar, as well as the fortress, promontory, and bay of the same name, belongs to Great Britain. Originally in the hands of the Moors, the place was wrested from them by the Spaniards, from whom it was taken by the English in the year 1704. Since then many attempts have been made by the Spaniards to regain its possession, but all have failed.

The promontory is a vast rock, consisting principally of gray, compact marble, rising from 1,200 to 1,400 feet above the level of the sea; it is about three miles in length, from half to three-quarters of a mile in width, and is joined to the mainland by a low, sandy isthmus, about one mile and a half in length.

On the north side, fronting the isthmus, the rock is almost perpendicular; the east and south sides are also

steep and rugged; but on the west side it slopes downward to a fine bay, nine miles long by four and a half broad.

On this slope lies the town, containing a mixed population of 16,000, and above rise the principal ramparts of the rocky fortress, generally garrisoned by upward of 3,000 troops. The rock abounds with caves, some of which are very spacious and picturesque. The Spanish lines, which extend across the isthmus, are defended by two forts; and the space between these lines and the foot of the rock is called the neutral ground.

The most interesting parts of the place are, of course, the fortifications. These are very extensive. From the signal tower and batteries there is a magnificent view. The climate of Gibraltar is temperate, and on the whole healthful.

In summer the African heat is tempered by a refreshing sea-breeze, which blows from about ten A.M., and ceases before sunset. During the other seasons, however, fogs and mists are common. There is a magnificent tank for supplying the navy. It generally contains from 9,000 to 10,000 tons of good water, which is that which falls on the mountain during the rainy season.

LXXXII.—BATTLE OF BEAL' AN DUINE.

The minstrel came once more to view
The eastern ridge of Benvenue,
For ere he parted, he would say
Farewell to lovely Loch Achray.
Where shall he find, in foreign land,
So lone a lake, so sweet a strand?

There is no breeze upon the fern,
No ripple on the lake,
Upon her ærie nods the erne,
The deer has sought the brake;
The small birds will not sing aloud,
The springing trout lies still,
So darkly glooms yon thunder-cloud,
That swathes, as with a purple shroud,
Benledi's distant hill.

Is it the thunder's solemn sound
That mutters deep and dread,
Or echoes from the groaning ground
The warrior's measured tread?
Is it the lightning's quivering glance
That on the thicket streams,
Or do they flash on spear and lance
The sun's retiring beams?
I see the dagger-crest of Mar,
I see the Moray's silver star,
Wave o'er the cloud of Saxon war,
That up the lake comes winding far!
To hero bound for battle strife,
Or bard of martial lay,
'Twere worth ten years of peaceful life,
One glance at their array!

Their light-armed archers, far and near,
Surveyed the tangled ground,
Their center ranks with pike and spear,
A twilight forest frowned,
Their barbed horsemen in the rear,
The stern battalia crowned.
No cymbal clashed, no clarion rang,
Still were the pipe and drum;
Save heavy tread and armor's clang,
The sullen march was dumb.
There breathed no wind their crests to shake,
Or wave their flags abroad;
Scarce the frail aspen seemed to quake,
That shadowed o'er their road;

Their vanward scouts no tidings bring,
  Can rouse no lurking foe,
Nor spy a trace of living thing,
  Save when they stirred the roe.
The host moves, like a deep sea-wave,
Where ride no rocks, its pride to brave,
  High-swelling, dark, and slow.
The lake is passed, and now they gain
A narrow and a broken plain,
Before the Trosach's rugged jaws:
And here the horse and spearmen pause,
While to explore a dangerous glen,
Dive through the pass the archer-men.

At once there rose so wild a yell
Within that dark and narrow dell,
As all the fiends from heaven that fell,
Had pealed the banner cry of hell!
Forth from the pass in tumult driven,
Like chaff before the wind of heaven,
  The archery appear;
For life! for life! their flight they ply;
While shriek, and shout, and battle-cry,
And plaids and bonnets waving high,
And broad-swords flashing to the sky,
  And maddening in the rear.

Onward they drive, in dreadful race,
  Pursuers and pursued;
Before that tide of flight and chase,
How shall it keep its rooted place,
  The spearmen's twilight wood?
"Down! down!" cried Mar, "your lances down!
  Bear back both friend and foe!"
Like reeds before the tempest's frown,
That serried grove of lances brown
  At once lay leveled low;
And closely shouldering side to side,
The bristling ranks the onset bide.
"We'll quell the savage mountaineer,
  As their Tinchell cows the game!
They come as fleet as mountain deer,
  We'll drive them back as tame."

Bearing before them in their course
The relics of the archer force,
Like wave with crest of sparkling foam,
Right onward did Clan-Alpine come.
Above their tide, each broadsword bright
Was brandishing like gleam of light,
Each targe was dark below;
And with the ocean's mighty swing,
When heaving to the tempest's wing,
They hurled them on the foe.
I heard the lance's shivering crash
As when the whirlwind rends the ash;
I heard the broadsword's deadly clang,
As if a hundred anvils rang;
But Moray wheeled his rearward rank
Of horsemen on Clan-Alpine's flank,
"My banner-man advance!
I see," he cried, "their column shake:
Now, gallants! for your ladies' sake,
Upon them with the lance!"

The horsemen dashed among the rout
As deer break through the broom;
Their steeds are stout, their swords are out,
They soon made lightsome room.
Clan-Alpine's best are backward borne;
Where, where was Roderick then?
One blast upon his bugle horn
Were worth a thousand men.
And refluent through the pass of fear,
The battle's tide was poured;
Vanished the Saxon's struggling spear,
Vanished the mountain sword.
As Bracklinn's chasm, so black and steep
Receives her roaring linn,
As the dark caverns of the deep
Suck the wild whirlpool in,
So did the deep and darksome pass
Devour the battle's mingled mass;
None linger now upon the plain,
Save those who ne'er shall fight again.

LXXXIII.—THE CHINESE.

The great empire of China occupies one-tenth of the habitable part of the globe, and its area is double that of the United States. Its population may be approximately stated at 500,000,000. About one-third of the empire is a level, fertile, and highly-cultivated country, while the remainder is studded with mountains, which, rising higher and higher toward the interior, ultimately tower up in the gigantic glaciers of the Yun-ling, a prolongation of the Himalayas.

The rivers of China are her glory, and no country can compare with her for natural facilities of inland navigation. There are two large river systems—that of the Hoang-ho, or Yellow river, and of the Yang-tse-Kiang, or Blue river. Of these the latter is far more important than its rival, since its tranquility of current renders it superior for navigation purposes. This majestic stream, with a length of nearly 3,000 miles, and a breadth, above Nanking, of three to four miles, is the main artery of the empire. Tens of thousands of boats and barges continually crowd it.

The country lying between the Yang-tse-Kiang and the Hoang-ho is, by its fertility, general prosperity, and the high state of its inhabitants' education, the most influential part of the Chinese empire. There are, however, many cities of importance outside of this district; and among these, perhaps, the one best known to foreigners is Canton. This is a great commercial place, and is situated on the Pekiang river, not far from its mouth. When viewed from the hills on the north, Canton appears to be little more than an expanse of reddish roofs, relieved by a few large trees.

These hills rise 1,200 feet above the river, and little or no vegetation is seen on them.

The circuit of the city is about ten miles, and a part of it is surrounded by walls. The houses stretch along the river for four miles, and the banks are everywhere nearly concealed by boats and rafts. The streets, amounting in all to upward of 600, are long, straight, and very narrow, paved with little round stones, and flagged at the sides of the houses. The temples and public buildings of Canton are numerous, but none of them present features worthy of special remark. The houses of the native Cantonese are generally comfortable, and those of the upper classes luxurious. They are made so as to admit plenty of air, and are always partially surrounded by a verandah. The Chinese themselves are ready imitators of European art, but cannot appreciate the beauty of the work when completed. They show great appreciation, however, of landscape gardening, and in this they even excel the Europeans. The houses of the wealthier classes are surrounded by vegetation in luxuriance.

At Macao there is a larger foreign population, in proportion, than in any other city of China. The foreigners are mostly Portuguese, and they comprise fully one-sixth of the inhabitants. The city is situated on the island of Heang-shang, and is built on the acclivity of two hills around a large semicircular bay. Its white-washed houses make a very pretty appearance from the roadstead, but the streets are narrow, and the dwellings of the natives are mostly in a wretched condition. The travel, as is the case in fact throughout all China, is entirely on foot or in sedan-chairs, the latter being used only by the upper classes. The best part of the town consists of a long line of well-built houses on the beach, in front of which is a promenade called the Praya Grande.

LXXXIV.—SCENES IN JAPAN.

The Japanese are of middling size, and generally of a yellow color, though some are brown and others nearly white. Their eyes are small, oblong, and deeply sunk in the head. Their noses are short and thick, and their hair thick, black and glossy. The men are vigorous and active, and the women well formed and graceful, while both sexes exhibit a higher degree of intelligence than is common among Asiatic nations. Society in Japan has been carried to a great degree of refinement.

The manners of the Japanese men and ladies are as cultivated as are those of our own country. The Japanese gentleman is invariably described as a person of pleasing address and polished manners. The rules which govern social intercourse are formed into a regular system, and published in books which are diligently studied at school. Nearly everybody learns to read and write, though, beyond that, little is done in the way of education.

The dwellings of the Japanese are built of wood with a thatched roof. In the interior, the matting of rice-straw, which is four inches thick, renders all other furniture unnecessary. It is on the mattress that the Japanese sleeps, enveloped in an ample gown and a wadded quilt, with his head upon a little wooden pillow. The mattress is the table cloth whereon he sets the lacquered dishes which contain his repast; it is a carpet for the bare feet of his children, and a divan when, squatted on his heels, he invites his friends to squat in like manner and give themselves up to the interminable gossip, with the never-failing accompaniments of tea and tobacco.

When night comes, the screens of the dwellings are closed, the chambers are put in order for sleeping, and a single lamp is lighted in a lofty wooden frame, covered with oiled paper, giving hardly more light than that of the stars. But with morning, all the furniture belonging to slumber is taken away and put into a closet. The screens are opened on all sides, and the dwelling is swept from one end to the other. The air circulates everywhere, and the sunshine falls in broad bars on the matting. Then during the hot hours of the day, the house is again so thoroughly closed that it seems like a gloomy cavern, and becomes the abode of the most absolute indolence and repose.

As horses are rarer in Japan than in Europe and America, most of the travel is on foot or in sedan chairs, as in China. Heavy burdens are generally borne by two men, one before the other, the burden being fastened to a long pole, whose ends rest on their shoulders.

Much of the country is so densely populated, that the roads connecting the large cities are lined with houses their entire length. Inns occur very often, and are there called tea-houses.

The agriculture of the Japanese is conducted with diligence and skill. With the exception of the roads, and of the woods required to supply timber and charcoal, hardly a foot of ground, to the very tops of the mountains, is left uncultivated. Irrigation is judiciously applied, and manure of all kinds is carefully collected and used in the production of generally abundant harvests. The grain principally raised is rice, which is said to be of a very superior quality. The Japanese machinery is of the most primitive description. The enormous rice-crop of the empire is hulled entirely by hand, or by a rude mallet propelled by the feet.

The people are passionately fond of acting, and Japanese juggling has long held a world-wide fame. The dramas are generally founded on national history or tradition, or the exploits, lives, and adventures of Japanese heroes

and gods. Their general tendency is said to be elevating and patriotic, though some are strongly tainted with the national passion for revenge, and have horrible exhibitions of cruel punishments. Only two actors are usually upon the stage at a time, and the female parts are performed by boys, as was formerly the case in Europe.

LXXXV.—SKETCHES OF RACES.

The study of the manners of different races of men forms a delightful and instructive occupation; at the same time it is exceedingly comprehensive. Great diversities necessarily exist in the habits and characters of different races. We can not, of course, expect to do more than introduce the subject in our short space, with a few of its most striking illustrations.

In Arabia there have existed for many centuries a class of people called Bedouins, who are the aborigines of the desert and the descendants of Ishmael. Their essential characteristic is that they are dwellers in tents, live by their flocks and herds, and that their hand is against every man. They are ignorant, fierce, and revengeful, unscrupulous in honor or honesty, and of depraved morals. Their greatest virtue is their hospitality, and even this is very questionable; its inviolability has been greatly exaggerated.

In personal appearance they are under middle size, spare and wiry, and capable of sustaining great fatigue and continued exposure to the fiery sun of their native clime. Their clothing is often reduced to a single garment,—a woolen gown bound round his waist with a girdle, in which

he carries his weapons and his pipe. The better class wear a head-covering, consisting of a handkerchief folded corner-wise, or a woolen head-piece bound round the top of their heads with a cord. Their religion is the Mohammedan, and their government patriarchal.

The Indian tribes of North America possess many peculiarities of custom. In another article we have alluded more particularly to the great mass who have repelled all efforts at civilization, preferring the freedom of their original state. There are, however, quite a number of the race who have become partly civilized, who have assumed the dress and religion of the whites, and in a measure have taken up their occupations. In part of Minnesota and Wisconsin the Indians have cultivated the soil, and in this way and in hunting manage to derive a subsistence. That they are capable of further improvement is a question which has yet to be proved.

In the Caucasian race is found the highest development of mental power; and, consequently, those countries inhabited by the race have attained the greatest degree of civilization. It may safely be said, that all which the world knows it learned from Europe or America.

The customs of the different sections of the Caucasian race vary greatly, and are influenced by climate, religious and political law, inheritance, and a vast number of minor causes. In America there is a more general diffusion of intelligence among all classes, from the greater liberality of all surrounding influences. Those inhabiting the rural districts are generally far beyond the European farmers in education and methods of labor. The peasantry of continental Europe are more dependent on the richer classes of the community; while in America it is to the farmers that society looks for support.

LXXXVI.—MOUNTAIN AND GORGE.

There is much that is beautiful in the scenery of our country, from the White Mountains to the valley of Yo Semite, with which we are very little acquainted.

There is no more interesting resort than the Natural Bridge of Virginia, situated in the midst of the wild scenery of the Blue Ridge region, and almost under its shadows upon its western side. Passing round the foot of a hill upon a rapidly descending road, the traveler suddenly finds himself upon a narrow track like a lane, between two high wooden fences. From his horse he may look over these fences into open space; but nothing would suggest to him that he is upon the great Natural Bridge so celebrated in the history of our country, and associated with the names of our most revered statesmen who have visited and described it.

A view from the outside of these barriers down the deep gorge is necessary to open to him the sublimity of this grand natural structure. He finds himself suspended over the center of a narrow chasm, not quite 100 feet wide, but 213 feet deep, its two smooth parallel walls of stratified limestone inclining at the same angle, which varies but a few degrees from the vertical. The arch is of such irregular form, so that a view of its solid dimensions is easily obtained from various points upon its edge. The thickness of the center of the arch is 40 feet; toward its sides this thickness greatly increases with a graceful curve, as in an artificial structure, conveying an idea of strength and solidity. And when its breadth is found to be fully 60 feet, and the stone is proved to be of the most substantial character, then it

becomes evident that the insignificant little stream which now runs in this deep gorge has had no agency in shaping and producing this wonderful channel.

From below, the bridge is seen to great advantage along the course of the little stream called Cedar Creek, which flows under it. But away from this gorge it is not a conspicuous object in the scenery, as it does not rise above the general level around it. At the base of the ridge many names are carved upon its steep walls; and every American has learned from his school books to look among them for the initials of George Washington, who is said to have climbed to a good height, and cut them conspicuously upon the rock. Inquiry at the spot, however, does not confirm these early lessons, the residents near the bridge having no tradition or other knowledge of this interesting event in the life of Washington.

Near the town of North Adams, in Massachusetts, there is much rugged and bold mountain scenery. Here is another natural bridge, not by any means so conspicuous an object as the one we have just described, but noted throughout the country round about as being situated in the midst of scenery of great beauty. It crosses a deep and narrow gorge and is almost unnoticeable in the confusion of rock and foliage around.

One of the wildest and most romantic spots in the Southern States is Lookout Mountain, near the confines of Georgia and Tennessee. Here was fought one of the hardest contested battles in the war of the Rebellion. Its summit is clothed with a heavy growth of trees and underwood; and in a rocky hollow lies the beautiful little pond called Lulu Lake.

In the White Mountains there are many points of interest to the reader as well as the sight-seer. One of the attractions in the Pemigewasset Valley is the Flume and its vicinity. There the traveler can thoroughly enjoy a day, and taste with eye and ear the freshness of the forest, the

glancing light on a mountain stream, the occasional rare beauty of the mosses on its banks, the colors at the bottom of its cool, still pools, the overarching grace of its trees, or the busy babble of its broken sparkling tide. "The Pool" is one of the wonders of this region. This is a natural well in the solid rock, 60 feet in diameter and 190 feet deep, of which 40 is water.

> "At noon-day here
> 'Tis twilight, and at sunset blackest night."

If this was hollowed out for Naiads, they must be of a very sullen temper, nymphs of the Stygian order, that love

> "Some uncouth cell,
> Where brooding darkness spreads his yellow wings,
> And the night raven sings."

LXXXVII.—THE PRAIRIES.

These are the gardens of the desert, these
The unshorn fields, boundless and beautiful,
For which the speech of England has no name—
The prairies. I behold them for the first,
And my heart swells, while the dilated sight
Takes in the encircling vastness. Lo! they stretch
In airy undulations far away,
As if the ocean, in his gentlest swell,
Stood still, with all his rounded billows fixed
And motionless forever. Motionless?
No! they are all unchained again. The clouds
Sweep over with their shadows, and, beneath,
The surface rolls and fluctuates to the eye;
Dark hollows seem to glide along and chase
The sunny ridges. Breezes of the south!

Who toss the golden and the flame-like flowers,
And pass the prairie-hawk that, poised on high,
Flaps his broad wings, yet moves not—ye have played
Among the palms of Mexico and vines
Of Texas, and have crisped the limpid brooks
That from the fountains of Sonora glide
Into the calm Pacific—have ye fanned
A nobler or a lovelier scene than this?
Man hath no part in all this glorious work.
The hand that built the firmament hath heaved
And smoothed these verdant swells and sown their slopes
With herbage, planted them with island groves,
And hedged them round with forests. Fitting floor
For this magnificent temple of the sky—
With flowers whose glory and whose multitude
Rival the constellations! the great heavens
Seem to stoop down upon the scene in love—
A nearer vault, and of a tenderer blue,
Than that which bends above the eastern hills.
As o'er the verdant waste I guide my steed,
Among the high, rank grass that sweeps his sides,
The hollow beating of his footstep seems
A sacrilegious sound. I think of those
Upon whose rest he tramples. Are they here—
The dead of other days?—and did the dust
Of these fair solitudes once stir with life
And burn with passion? Let the mighty mounds
That overlook the rivers, or that rise
In the dim forest, crowded with old oaks,
Answer. A race that long has passed away
Built them; a disciplined and populous race
Heaped, with long toil, the earth, while yet the Greek
Was hewing the Pentelicus to forms
Of symmetry, and rearing on its rock
The glittering Parthenon. These ample fields
Nourished their harvests; here their herds were fed;
When haply by their stalls the bison lowed,
And bowed his maned shoulder to the yoke.
All day this desert murmured with their toils,
Till twilight blushed, and lovers walked and woed
In a forgotten language, and old tunes,
From instruments of unremembered form,
Gave the soft winds a voice.

LXXXVIII.—SOUTH AMERICAN LANDSCAPES.

The whole of the interior country of South America, north of the Amazon river, is a comparatively unknown region. There are few parts of the world that have been less visited, both from the difficulty and danger of travel. Of the descriptions that have been given to the world of these regions, none have conveyed more than the faint impressions of a hasty voyage through certain parts of the country; and, therefore, they do not comprise an accurate nor a general picture of the manners of the inhabitants. There are in New Granada, Venezuela, and Ecuador many towns of a respectable size, of which little is known beyond their existence. This, however, is due greatly to the lack of commercial enterprise which precludes their taking advantage of the country's natural facilities. Their industry amounts to little.

In the llanos or plains, toward the Orinoco, the people are wholly occupied with the rearing of cattle and horses. The Llaneros are mostly Creoles. Agriculture is chiefly in the hands of the converted Indians, who evince a decided predilection for these tranquil labors. Manufactures can hardly be said to exist. Straw hats, carpets, and some other articles are, indeed, made in some of the principal towns, but in no case does native industry satisfy the demands of the country, and nearly all the manufactured articles in use are imported.

The cultivated land of Ecuador lies chiefly in the valley which extends along the summit of the Cordilleras. There are few haciendas of any size or degree of cultivation; those in the neighborhood of Quitumvita being the best.

The population of Venezuela, like that of the other Spanish-American colonies, exhibits a singular mixture of the Spanish, Indian, and African races. Their occupation is mostly agricultural. In the cities there is very little business done, except at Caracas and Maracaibo. At the latter places, merchants are more energetic and many of them accumulate considerable wealth. The country-houses of this class are models of comfort and convenience for that region.

The scenery in many parts of these regions may be favorably compared with that of any other part of the world. The variety of the plants, the richness of the herbage, and the luxuriance of the foliage combine to make a most attractive scene. In the neighborhood of the little town of Rio Negro, in New Granada, many of these features are presented. The mountain-road winding down to visit the village, passes the rustic tavern around which graze the mules and horses of the llaneros and farmers who are partaking of the rude hospitalities within, and overlooks the spires and roofs of Rio Negro itself in the distance.

LXXXIX.—SCENES IN MEXICO

Mexico is divided climatically into three regions, called the hot, the temperate, and the cold lands. The former comprise the coast lands; the temperate lands lying at a considerable elevation; and the cold lands comprising the mountainous districts rising above the temperate lands to the limit of constant snow. In the second of these divisions

are included all the great centers of population of the republic. The great wealth and dependence of Mexico is in its mines; and though under a new order of things agriculture and manufactures may receive greater attention, still the abundance of minerals is so great that its mines must always constitute the leading interest.

The minerals chiefly worked as yet have been gold and silver; the latter predominating, and forming the principal article of export. It also forms the greater part of the national currency. From the conquest of Mexico in 1521, to the year of independence, 1821, a period of three centuries, the business of mining was in most respects brought to such perfection that during the space of forty years, in which it may be said this branch of labor has been open to the science of foreign nations, no very material improvement has been effected on the old system, except in the introduction of steam-engines for clearing deep mines of water. The kings of Spain held the mines of Mexico as royal property, but any citizen was allowed to work them by paying over to the royal treasury one-fifth of the product thereof. At present any citizen or foreigner can, by right of discovery, denounce or record a mine, and obtain the right to work it free of all tribute.

Mining in Mexico, though not partaking of all the exciting characteristics that mark the occupation in California, is yet possessed of the same inevitable features which distinguish camp-life from home-life. The mines are usually in some unsettled district, so that the miners are shut out from the world and form a world of their own. Some mines are actually walled in, though that generally occurs only in isolated instances, where the mine is near some town. As an instance of this we may mention the silver mine near Zacatecas, which is surrounded by a lofty wall. The miners are as a general thing negroes, or low whites, and are ignorant and lazy, forming a contrast to the California miners who are ignorant, but active and industrious.

The city of Mexico is the capital of the republic. It occupies a part of the site of the ancient city destroyed by Cortes, and is consequently much smaller than the capital of the Montezumas. It is, however, a large and splendid city, inferior to few in the world in the magnificence of its appearance and site. There are many public buildings, some of which, and especially the cathedral, are unsurpassed on this continent.

In the center of the city is a great square paved with marble, and covering an area of twelve acres. The national form of religion is Roman Catholic, and the cathedral, on the Plaza Mayor, is well worthy to be the chief church of a national form of worship. Some three miles from the city are the ruins of the Bishop's Palace, which was destroyed by the United States army during the Mexican War.

XC.—THE CITY OF WASHINGTON.

Washington was founded in 1790 by the first President of the United States, whose name it bears, and was occupied as the seat of government in 1800. It is a very fine-looking city, situated on the left bank of the Potomac river, and contains many beautiful buildings, most of which are occupied for government purposes. Of these the Presidential Mansion and the Capitol are the most prominent. The former, generally called, from its color, the "White House," is in the western part of the city, and is surrounded by the War, Navy, Treasury, and State Departments. It is two stories in height, is built of freestone, and is 170 feet long by 86 deep.

Pennsylvania avenue, the main line of communication between the Presidential Mansion and the Capitol, is, for that distance, well filled with buildings; but few other streets are seen without frequent spaces, which are yet to be covered with houses. The Capitol is commandingly situated upon the brow of a plateau in the eastern part of the city. It is surrounded by a beautiful park of thirty-five acres, containing a variety of trees, both indigenous and foreign. The walls of the central building are constructed of white sandstone, and those of the wings of fine white marble, slightly variegated with blue. The main entrances are by three eastern porticos, which are made easy of access by broad flights of stone steps.

But as the most populous part of the city is in the rear of the Capitol, the most usual entrances are on that side. Exactly in the center of the Capitol rises a cast-iron dome, surmounted by a bronze statue of Liberty, rising to the height of 300 feet above the basement floor. The circular room in the center of the Capitol, and underneath the dome, is called the Rotunda. In the center of the north wing is the Senate Chamber, of rectangular form, and 112 feet long, 82 in width, and 30 in height. The ceiling is of cast-iron, deeply paneled with stained glass sky-lights, and is ornamented in the richest style. The hall is surrounded by galleries capable of seating 1,000 persons, which are reached by magnificent marble staircases. The Hall of Representatives is larger than the Senate Chamber, and is highly decorated with frescoes and paintings.

The library of Congress occupies a fine room, 91 feet long and 34 feet high, on the west of the Rotunda, fronting upon the western park and the city, of which it commands a charming view. The collection now numbers upwards of 70,000 volumes, exclusive of documents, which, to the number of 80,000 volumes, are kept in separate apartments Under the Representative Hall is a fine row of monolithic columns, with capitals representing the tobacco and thistle.

The 24 columns and 40 pilasters of the Senate and Members' Hall are entirely original, containing imitations of corn-leaves, tobacco, and magnolias.

The gilded ornamentations of the ceilings and cornices of the two Houses are all drawn from the natural productions of the country. The grounds around this fine building are being gradually extended, it being intended that they shall reach to the Potomac, with the occasional interruption of city streets. That part of the grounds immediately in front of the Capitol is being converted into a botanical garden, the basis being a collection of plants brought out by the South Sea and Japanese exploring expeditions. A striking feature of Washington is exhibited by the great hotels, which are all on Pennsylvania avenue, and are densely crowded while Congress is in session.

Although most of the State departments are clustered around the White House, the Department of the Interior forms a notable example to the contrary. This occupies a magnificent marble edifice, in the center of the business portion of the city. It is generally known as the Patent Office, from one of its principal bureaus, and is built in the Doric style of architecture, having a length of 406 feet and a width of 275 feet. The saloons devoted to the models of patents are altogether 1,300 feet in length. The building has a conspicuous front, consisting of an elegant central portico with eight massive Doric columns. There are several magnificent halls in the Patent Office, among which are the National Gallery, containing cabinets of natural history, relics of Washington and Franklin, etc., and the Blue Corridor.

One of the noblest institutions and finest structures in Washington is the Smithsonian Institute, situated on a gently-rising ground, west of the Capitol, and surrounded by extensive grounds laid out in gardens and parks. It originated in a bequest of more than half a million of dollars left by an Englishman named Smithson, "to found

at Washington, under the name of the Smithsonian Institute, an establishment for the increase and diffusion of knowledge among men." The building, which is of a reddish freestone, is Romanesque in style, and is 450 feet in length by 140 in width, and has nine towers varying in height from 75 to 150 feet. It consists of a central compartment, 205 feet by 55, two connecting ranges of 60 feet, and two wings. It has a lecture-room capable of containing nearly 2,000 persons, a museum for objects of natural history, a library capable of containing 100,000 volumes, a gallery for painting and statuary, and one of the best furnished laboratories in the United States. The entire cost of the building and grounds was $325,000.

Near the Patent Office is the General Post Office building, a beautiful marble structure in the Italian palatial style, which contains the Post Master General's Department and also the city Post Office. It is in the Corinthian order, three stories in height, 204 feet long, and 102 deep, containing in all eighty-one rooms.

XCI.—THE DYING GLADIATOR.

The seal is set.—Now welcome thou dread power!
Nameless, yet thus omnipotent, which here
Walk'st in the shadow of the midnight hour,
With a deep awe, yet all distinct from fear;
Thy haunts are ever where the dead walls rear
Their ivy mantles, and the solemn scene
Derives from thee a sense so deep and clear,
That we become a part of what has been,
And grow unto the spot, all seeing, but unseen.

And here the buzz of eager nations ran,
In murmured pity or loud-roared applause,
As man was slaughtered by his fellow-man.
And wherefore slaughtered? wherefore, but because
Such were the bloody circus' genial laws,
And the imperial pleasure. Wherefore not?
What matters where we fall to fill the maws
Of worms—on battle-plain or listed spot?
Both are but theaters where the chief actors rot.

I see before me the gladiator lie:
He leans upon his hand; his manly brow
Consents to death, but conquers agony,
And his drooped head sinks gradually low;
And through his side the last drops ebbing slow
From the red gash, fall heavy, one by one,
Like the first of a thunder shower; and now
The arena swims around him: he is gone,
Ere ceased the inhuman shout which hailed the wretch who won

He heard it, but he heeded not; his eyes
Were with his heart, and that was far away:
He recked not of the life he lost, nor prize.
But where his rude hut by the Danube lay,
There were his young barbarians all at play;
There was their Dacian mother—he, their sire,
Butchered to make a Roman holiday.
All this rushed with his blood. Shall he expire,
And unavenged? Arise, ye Goths, and glut your ire!

XCII.—STATUES AND STATUE-MAKING.

Statues made of marble and of bronze, each require an entirely different process. Bronze statues are cast; marble statues are chiseled. The mere cost and labor of making

either is far greater than is supposed. When an artist thinks of executing a statue in marble, his first step is usually to make a drawing of what he has planned. No one who has not studied sculpture can realize the arduous problems involved in this operation. A line out of place, a curve too hastily drawn, and the effect of the whole work may be marred.

After the work of sketching has been happily ended, the sculptor begins modeling, either in clay or wax, one or more miniatures of the statue, and has them cast in plaster. Too frequently he finds that the figure which looked so well on paper will not do for a statue, and that the whole course of planning and sketching must be gone through again. Canova is said to have been so discouraged by the result of his first attempt at modeling as to have exclaimed "that moulding pats of butter was all he should ever be fit for."

When the sculptor has obtained a miniature that satisfies him, and has got a plaster cast of it, he sets to work again with his clay, and fashions another model of the exact size of his proposed statue. Of this, a new plaster cast is taken, while the clay is still moist, and the artist can at last judge of the effect of his future statue, for this plaster cast is the exact prototype of it. He can fold his arms, too, for a while, since the next steps to be taken do not concern him, but are the business of another artist, known technically as the "statuary."

The "statuary," who is often an artist of as much talent in his way as the sculptor in his, sets the plaster model on a platform, measures it, and places it side by side with a block of marble of the requisite height and width. This done, he applies to the model an instrument of mathematical precision, by which he obtains the detailed measure of every part and angle of the statue. Returning to the marble, he roughly sketches on the outside of it, by means of points, a sort of outline of the figure or group. Upon

each of the spots where he has marked a point with his pencil, a workman carefully bores a hole with an awl; and when all the holes have been bored according to direction, the marble looks as though it had been riddled with bullets. A second workman now appears with a chisel and hammer to hew away the fragments of marble between the different holes and along the pencil lines.

This work is more or less easy, according as the attitude of the statue is simple or fanciful. The appearance presented by the marble when the preparatory hewing is ended is that of some person or persons thickly wrapped in a shroud. The outlines of head and body can be vaguely detected under the white covering, but nothing more; and it is not until the statuary himself has set to work with his finer chisel and more delicate hand, that a tangible form begins to emerge from the hard mass. First, the head, then the shoulders and trunk, then the legs, and then the arms and hands appear.

When the statue is handed over again to the sculptor, that he may give the final touches to it, there remains but little for him to do, except to bestow upon it enough finishing labor to entitle it to be called his own. For this the most delicate of tools are employed; slender chisels with the finest points; toy hammers with scarcely a weight to them; little graters that fit on, something like thimbles, to the top of the forefinger; and to polish the marble and smooth it, tripoli, lead, chamois-leather, sand-paper, sponges steeped in oil, and the palm of the hand are used.

In bronze sculpture the preliminaries, as regards sketching and modeling are identical. When a clay model is finished, it is not cast in plaster, but is covered with a coating of wax of the intended thickness of the metal. A peculiar preparation is wetted to form a paste, which is thickly plastered on the wax coating, and set in a warm place to dry. When the drying is completed, the wax between the interior of the mould and the outside of the

model is slowly melted by fire. By a most tedious and painstaking process the melted brass is then poured into the space lately occupied by the wax, and the statue is cast.

XCIII.—THE SCULPTOR BOY.

Chisel in hand stood a sculptor boy,
With his marble block before him;
And his face lit up with a smile of joy,
As an angel dream passed o'er him.
He carved that dream on the yielding stone,
With many a sharp incision;
In heaven's own light the sculptor shone,—
He had caught that angel vision.

Sculptors of life are *we*, as we stand
With our lives uncarved before us,
Waiting the hour, when, at God's command,
Our life-dream passes o'er us.
Let us carve it, then, on the yielding stone,
With many a sharp incision;—
Its heavenly beauty shall be our own,—
Our lives, that angel vision.

XCIV.—MONUMENTS OF PARIS.

The Place Vendôme was begun in 1699. The buildings are uniformly of the Corinthian order of architecture. In the middle formerly stood a colossal equestrian statue of Louis XIV, in bronze, which was demolished in 1792. The mutilated pedestal was replaced in 1806 by the Colonne Vendôme, erected by Napoleon to commemorate his success in the German campaign of 1805. This column, 135 feet high by 12 in diameter, was an imitation of the pillar of Trajan at Rome, on a somewhat larger scale. The pedestal and shaft were of stone, covered with bronze bas-reliefs (fanciful mouldings) cast out of 200 pieces of Austrian and Russian cannon. Four eagles stood at the corners of the pedestal, supporting wreaths of oak. The spiral bas-reliefs of the shaft displayed in order the principal actions, from the departure of the troops from Boulogne to the battle of Austerlitz. The figures, 2,000 in number, were three feet high; the length of the scroll, 840 feet; a spiral thread divided the lines and bore the names of the actions represented. Above the capital was a gallery approached by a winding staircase of 176 steps. The column stood upon a base of polished granite, surrounded by an iron railing.

The Place de l'Etoile is a vast circular space in one of the most fashionable quarters of Paris. It is partly surrounded by a series of elegant houses of uniform design. From the Place twelve magnificent avenues branch out in different directions. In the center rises the Arc de Triomphe. The idea of this proud monument originated with Napoleon, who decreed its erection in 1806. In 1814 the works were entirely suspended, until, in 1823, after the

campaign of the Duke d'Angoulême in Spain, it was determined to finish the arch in honor of his victories. The whole was not completed until 1836.

The monument consists of a vast central arch, 90 feet in height by 45 feet in width, over which the massive stonework rises considerably higher. Each pier of the principal fronts is ornamented with a projecting pedestal, supporting groups of figures in sharp relief. The northern pier of the eastern front bears a group representing the departure of the army in 1792; the Genius of War summons the nation to arms. The dimensions of this and the other groups are in total height 36 feet, and each figure 18 feet. The next group represents the triumph of 1810, Victory crowning Napoleon. Fame surmounts the whole, and History records his deeds; vanquished towns are at his feet.

The groups on the other arches represent the conquests of the armies of the North, East, West, and South; the names of the generals are placed beneath, numbering altogether 384. Winding staircases in the interior of the two eastern piers lead to several halls. From the platform at the top of the arch one of the finest views of Paris and its environs may be enjoyed.

Place de la Concorde was, until the reign of Louis XV, a waste, irregular space. After the peace of Aix-la-Chapelle, the city obtained leave of the king to form a square here, adorned with a statue in his honor. The works were not finished until 1772. In the middle stood a bronze equestrian statue of Louis in a Roman costume. This was destroyed, and followed by several other monuments, which followed its fate in the revolutions. The present column was finished in 1836, and stands outside of the square, so-called, and in one corner of the Place.

The square itself is enclosed with balustrades, along which are placed 120 ornamental lamp-posts. In the center stands the Obelisk of Luxor. This magnificent relic of Ancient Egypt is one of the two obelisks that stood in front

of the great temple of Thebes, where they were erected 1,550 years before Christ. It was given to France by the Viceroy of Egypt. It is covered on each face with three lines of hieroglyphic inscriptions, containing 1,600 characters.

On either side of this venerable monument are two fountains, 80 feet in diameter, out of which rise two smaller basins, the upper one being inverted. Six figures, nine feet in height, are seated around it, with their feet on the prows of vessels, and separated from each other by spouting dolphins. Six larger dolphins, held by as many Tritons and Nereids, sporting in the large and highly ornamental basin below, spout water into the second one.

The Bastile, the famous prison of France, was attacked and captured by the people in the revolution of 1789. Its site now forms the Place de la Bastile. In the center of the place the construction of a fountain was begun by order of Napoleon, but was afterwards abandoned. On the site of this fountain now stands the Column of July, its pedestal standing immediately on a basement of white marble, supported by blocks of granite. Surmounting the capital is a gilt globe, and on it stands a colossal figure, representing the "Genius of Liberty;" in its right hand is a torch, in its left a broken chain. It stands on one foot, with wings expanded, as if in the act of taking flight. The height of this column is about 154 feet, and its diameter 12 feet. This monument was inaugurated with great ceremony in 1840, when the remains of the victims of the revolution of 1830 were deposited in the vaults underneath.

XCV.—THE ALPINE GLACIERS.

The glaciers of Europe are principally confined to the great mountainous districts, the Alps and the highlands of Norway. Wherever (in Europe) any considerable area of mountainous country rises above the snow-line, there glaciers are found in more or less abundance. In the Alps, this level is, on an average, about 7,200 feet, including glaciers of all descriptions. The best known and most important glaciers are the Mer de Glace of Chamouni, the Corner (or Korner) glacier, near Zermatt (Monte Rosa), the lower glacier of the Aar, and glacier of the Rhone.

Glaciers among the Swiss Alps vary from a few square yards to acres and miles in extent, covering, in some instances, whole districts, filling up entirely the elevated hollows and basins between the peaks and ridges of the Alps, and sending forth arms and branches into the inhabited valleys, below the regions of forests, and as far down as the level at which corn will grow. It is such offsets of the glacier as these that are presented to the view of the traveler from the villages of Chamouni and Grindelwald. These, however, are, as it were, but the skirts and fringes of that vast, everlasting drapery of ice which clothes all the upper region of the Alps.

These fields or tracts of uninterrupted glacier have been called "Seas of Ice," and there are three such among the Swiss and Savoyard Alps which merit special attention, one of which sends out no less than thirteen branches, and its extent has been estimated at 125 square miles. The greatest thickness of the glaciers has been commonly estimated at between 600 and 800 feet.

The glaciers of Grindelwald descend into the very bottom of the valley, almost within a stone's throw of the cottages. They flow from between three mountains—the Giant, the Middle Mountain, and the Wetterhorn—and are branches of that vast ocean of ice which fills the high valleys of the Bernese Alps. The lower glacier, which is the larger, forces its way out between the mountain walls of a narrow valley. It gradually widens above, and spreads out into a sea of ice, which is shattered into the wildest confusion of peaks and crevices. At its foot are found gloomy and irregular caverns, from which pour forth cold streams of water.

The upper glacier offers the same wild and broken surface, with cliffs and gorges of ice, and often has a larger vault at its end. It is impossible to imagine a stranger scene than that of these rivers of ice crushing their way slowly down the valley, with the enormous mountain summits frowning above. The Rosenlaeir glacier is noted, above all others, for the purity of its white surface, and the clear, transparent azure of its icebergs. It falls, like a mountain torrent, down between the dark rocks, and seems like a frozen waterfall arrested in its descent. The Aar glacier is remarkably even in surface, and is broken rarely into cavities. It is eighteen miles long, and two broad.

The Rhone glacier, from which the Rhone river issues, is one of the grandest in Switzerland. It fills the head of the valley, from side to side, and seems piled up against the shoulder of the mountain, whose tall peak overhangs it. The Rhone springs from an icy cavern, into which a waterfall rushes from a height of 150 feet. The Glacier de Rossgg exhibits those sharp edges and deep precipices of ice, piled together in savage grandeur, which render it one of the most striking scenes among all glacial formations.

The Glacier des Bossons reaches further into the valley than any other, and forms at its foot a huge embankment

of rocks and stones, above which lie enormous masses of ice, split into a thousand strange shapes, some forming pinnacles sixty or eighty feet high, others immense broken or melted blocks so overhanging that they excite a shudder of fear. The deep, blue color of the ice in its depths is indescribably beautiful. The Mer de Glace is the name which is given to the great glaciers which form the source of the Arveyron in the vale of Chamouni.

The view of this enormous sea of ice, which extends two leagues up the valley, is one of the most striking in these scenes of wonder; and its vast extent and steep fastnesses make it as attractive to the daring visitor as it is dangerous to the unpractised and incautious. It terminates in the Glacier du Bois, which ends in a vault of ice, whose arch varies from thirty to one hundred feet in height. The scenery around this vault, from which spring the rapid waters of the Arveyron, is very grand; the deep blackness of the depth of the cave offers a fine contrast to the beautiful azure where the light is transmitted through the ice, and the dark forest and broken trunks of the pines add to the wild character of the scene.

XCVI.—VALLEYS AND GORGES.

Depressions of the earth's surface, occurring between mountains, hills, or neighboring plateaus, form what are called valleys. These are almost everywhere exhibited in a remarkable variety of shape and origin. Valleys become gorges where the mountains which inclose them approach

each other very nearly; when they are separated by a wide interval they are called plains. The formation of valleys is due to the action of earthquakes—that is, to the great oscillations which in former ages convulsed the earth—and to the gradual loss or wearing away of a bed of earth. The latter is caused by glaciers and surface waste. Valleys may also be formed by the violent and sudden action of the waters which have laid the lower strata of the soil by carrying away the upper.

Gorges and ravines are very numerous in hilly countries, and they invariably lead to the most open valleys. Their origin is always violent, and it is due to the destructive action of a torrent or to a sudden fracture or convulsion of the soil. These arbitrary depressions are of great interest to the geologist, because they reveal sections of strata and exhibit the character of the rocks composing the mountain mass. The Pyrenees, the Alps, and the Andes are furrowed in every direction by profound ravines. Those of the Alps are best known to the world, and perhaps a description of a few of them may not be uninteresting.

The gorge of the Simplon is traversed by a carriage-road constructed by Bonaparte, which is one of the greatest of modern works of art. On the Italian side of the mountains the road passes through the gorge of Gondo, one of the grandest and most savage in the Alps, which narrows and deepens at every step until its precipices in some places actually overhang the road. It is bounded by slate rocks whose smooth, vertical sides deny support to any vegetation. The basin of the cliffs and the bed of the stream are often heaped up with vast shattered fragments, ruins of the mountains above, while loosened masses, still hanging on the slope, seem to threaten the passenger below.

The Gorge de Pfeffers, one of the most extraordinary spots in Switzerland, is made accessible by a road cut in the rocks at the side of the gorge. On a narrow ledge, a few feet above the roaring Tamina, and so deeply sunken be-

tween the rocks as to be half buried, are the Baths of Pfeffer. These are large, gloomy buildings, affording accommodations for a limited number of bathing guests who come to bathe in the hot springs that here gush from the rocks. A few yards above the bath-house, the sides of the ravine contract so as to approach within a few feet of each other; a little farther up they even close over and cover up the river, which is seen issuing out of a chasm. A bridge of planks leads to the entrance, which is closed by a door. Within, the river pursues a subterranean course for several hundred yards.

The Via Mala, extending a distance of four miles, is one of the most tremendous and sublime defiles in the Alps. The precipices often rise perpendicularly on both sides to a height of 1,600 feet, and in many places are not more than ten yards apart. The river Rhine, compressed within this narrow stony bed, is barely audible as it rushes through the depths below the road. When the traveler enters the mouth of the defile, the sudden transition from the glare of sunshine to the gloom of a chasm, so narrow that it leaves but a strip of sky overhead, is exceedingly striking. The walls of rock on both sides afford, naturally, not an inch of space along which a goat's foot could clamber.

The peasants gave the name to this pass of Trou Perdu (the Lost Gulf), because it was for a long time believed to be utterly inaccessible. For more than 1,000 feet the road is carried along beneath a stone canopy, artificially hollowed out, and protected by a parapet wall, below which, at a depth of many hundred feet, the contracted Rhine frets the foot of the precipice. A little higher up, the gorge bulges out into a sort of basin; but it soon contracts again, and the scenery of the pass may be said to attain the height of grandeur beyond the first of the three bridges, by means of which the road is conveyed from side to side of the Rhine.

XCVII.—THE SOLDIER'S REST.

Soldier rest! thy warfare o'er,
  Sleep the sleep that knows not breaking;
Dream of battle-fields no more,
  Days of danger, nights of waking.
In our Isle's enchanted hall,
  Hands unseen thy couch are strewing,
Fairy strains of music fall,
  Every sense in slumber dewing.
Soldier, rest! thy warfare o'er,
Dream of battle-fields no more,
Sleep the sleep that knows not breaking,
Morn of toil, nor night of waking.

No rude sound shall reach thine ear,
  Armor's clang, or war-steed champing,
Trump nor pibroch summon here,
  Mustering clan, or squadron tramping.
Yet the *lark's* shrill fife may come,
  At the day-break from the fallow,
And the *bittern* sound *his* drum,
  Booming from the sedgy shallow.
Ruder sounds shall none be near,
Guards nor warders challenge here,
Here's no war-steed's neigh and champing,
Shouting clans or squadrons stamping.

Huntsman, rest! thy chase is done;
  While our slumb'rous spells assail ye,
Dream not with the rising sun,
  Bugles here shall sound reveille.
Sleep! the deer is in his den;
  Sleep! thy hounds are by thee lying;
Sleep! nor dream in yonder glen,
  How thy gallant steed lay dying.
Huntsman, rest! thy chase is done,
Think not of the rising sun,
For at dawning to assail ye,
Here no bugle sounds reveille.

XCVIII.—RUINS IN HINDOSTAN.

The ancient city of Vijianugger was formerly a magnificent metropolis on the banks of the river Tumboodra, and is said to have contained within its walls an area of seven square miles. All that now remain of its grandeur are two miserable hamlets and almost indistinguishable ruins. So little is known of the ancient city, that even the names and uses of the different buildings still standing are in many instances only conjecture.

The most interesting and, at the same time, the best identified relic is the Harem. This building is surrounded by a high wall, whose angles are surmounted by curious towers. The construction of the wall is wedge-shape, the base being very broad and tapering at the top to a sharp edge, while the center is left hollow. The enclosure is cultivated with standing corn, so thick and high that nothing can be seen, and it is with extreme difficulty that the building is reached. The Harem, which is on the favorite star-shaped plan of the Hindoo, is a singularly pleasing and picturesque specimen of the mixed style of architecture. The lower story was no doubt used as the private audience hall of the king, and the upper as his apartments.

Not far from the Harem are the ruins of a temple. The pyramidal tower over the principal entrance, with the porticos on each side for the use of the pilgrims who used to frequent it, are all in ruins. There is no worship of any sort ever held here, nor is even a native to be seen near it except on very rare occasions. In the court-yard of the temple is a juggernaut car, which, however, is not often visible, from the jungle which rises to a great height.

At the village of Tarputry is a temple remarkable for the curious appearance of the pyramidal gateway tower, which has been split in halves by lightning. The temple is entered by one of the side doors in the wall, and worship is daily performed inside by a Brahmin priest. The best outside view of the temple is from the south, where it is surmounted by a profusely-decorated tower. The base is of a hard hornblend stone, and well-carved. From its sculpture, it is apparent that the temple is dedicated to the worship of Vishnu, since the monkey-god appears everywhere.

Not far from the Harem, in the ruined city of Vijianugger, described heretofore, is a small Hindoo temple, called the Volkonda, or pleasure hall. It had the usual pyramidal tower over its entrance, which is now in ruins. Passing around the temple to its right, its northern face presents itself. Entering the building by either of the carved doors, the whole of the interior is found to be beautifully ornamented with sculptures. The effect of the room is spoilt by being so very low, but the four pillars of black polished granite and the whole roof are master-pieces of engraving. The center of the floor was formerly covered with an enormous slab of granite. This has been lifted by the Mussulmen in search of treasure, and still remains poised in air, as left by them. The flooring of the rest of the interior has also been broken up for the same purpose; here was the sanctuary, and, as is usually the case, it is the plainest part of the whole temple.

XCIX.—EGYPTIAN RUINS.

The foundation of the city of Thebes still remains enveloped in that obscurity which is the fate of all the most ancient cities. Ancient authors do not agree as to the extent of this city. The epithet "hundred-gated," applied to it by Homer, is supposed now to refer rather to the doors of its temples than to the gates of its walls. That, however, it was a great and powerful city cannot be disputed. This we learn not alone from the authority of the ancient writers, but the extent of the Egyptian conquests adding continually to the wealth of the empire and the metropolis, the magnificence of the buildings which adorned it, the spoils taken thence by the Persians, and the gold and silver collected after the burning of the city, amply testify to the immense wealth of Egyptian Thebes.

The greatest step toward the decline and fall of this city was the preference given to Lower Egypt; and the removal of the seat of government to Alexandria. Commercial wealth, on the accession of the Ptolemies, began to flow through other channels, and Ethiopia no longer contributed to the revenues of Thebes. Its subsequent destruction, after a three years' siege, by one of the Ptolemies, struck a death-blow to its welfare and existence; it was thenceforth scarcely deemed an Egyptian city.

The principal part of Thebes lay on the east bank of the Nile; that on the opposite bore the name of the Libyan suburb. It is not certain whether or no cultivated spots of land were in early times admitted amidst the houses; but it appears that the principal inhabitants had extensive gardens attached to their mansions.

The most ancient remains now existing at Thebes are unquestionably in the great temple of Karnak; the largest and most splendid ruin of which perhaps either ancient or modern times can boast, being the work of a number of successive monarchs, each anxious to surpass his predecessor by increasing the size and proportions of the part he added. It is this fact which enables us to account for the diminutive size of the older parts of this extensive building. And to their comparatively limited scale, offering greater facility to an invading enemy to destroy them, added to their remote antiquity, are to be attributed their dilapidated state, and the absence of all sculptures. The approach to the temple was along an avenue lined with carved rocks, which from their resemblance to sphinxes have given a name to the road.

The town of Sioot has succeeded Girgeh as the capital of Upper Egypt, and is now a thriving town, for that region. Of the ancient Sioot little remains except extensive mounds, and a few stone foundations which are frequently discovered in digging basements and trenches. In the mountain above Sioot are several grottoes cut in the solid rock, which have been used for many centuries for burial-places. The modern town of Sioot contains about 20,000 inhabitants, of whom 1,000 are Christians. In the town are several good houses, but the generality are mere hovels. The streets are unpaved and narrow, as is the case in all the towns of Egypt. Some of the bazaars are little inferior to those of Cairo, and are well supplied.

Pompey's Pillar, near the city of Alexandria, is one of the wonders of Egypt. It stands on an eminence a little south of the city walls. Its foundations were evidently once under the level of the ground, and formed part of a paved area, the stones of which have been removed (probably to serve as building materials), leaving only those beneath the column itself, to the great risk of the monument. The total height of the column is 99 feet, and its circumference 30 feet. The

shaft is elegant and of good style, but the capital and pedestal are of inferior workmanship, and have the appearance of being of a different epoch. It is probable that this monument silently records the capture of Alexandria by the arms of Diocletian, in 296 A. D.

C.—ADDRESS TO THE MUMMY IN BELZONI'S EXHIBITION, LONDON.

And thou hast walked about (how strange a story!)
In Thebes' streets three thousand years ago,
When the Memnonium was in all its glory,
And time had not begun to overthrow
Those temples, palaces, and piles stupendous,
Of which the very ruins are tremendous.

Speak! for thou long enough hast acted dummy;
Thou hast a tongue—come, let us hear its tune;
Thou'rt standing on thy legs, above ground, Mummy,
Revisiting the glimpses of the moon;
Not like thin ghosts or disembodied creatures,
But with thy bones, and flesh, and limbs, and features.

Tell us—for doubtless thou canst recollect—
To whom should we assign the sphinx's fame?
Was Cheops or Cephrenes architect
Of either pyramid that bears his name?
Is Pompey's pillar really a misnomer?
Had Thebes a hundred gates, as sung by Homer?

Perhaps thou wert a Mason, and forbidden
By oath to tell the mysteries of thy trade;
Then say what secret melody was hidden
In Memnon's statue, which at sunrise played?
Perhaps thou wert a priest; if so, my struggles
Are vain; Egyptian priest ne'er owned his juggles.

Perchance that very hand, now pinioned flat,
Has hob-a-nobbed with Pharaoh, glass to glass:
Or dropped a halfpenny in Homer's hat;
Or doffed thine own to let Queen Dido pass;
Or held, by Solomon's own invitation,
A torch at the great temple's dedication.

I need not ask thee if that hand, when armed,
Has any Roman soldier mauled and knuckled
For thou wert dead and buried and embalmed,
Ere Romulus and Remus had been suckled;
Antiquity appears to have begun
Long after thy primeval race was run.

Since first thy form was in this box extended,
We have above ground seen some strange mutations;
The Roman empire has begun and ended;
New worlds have risen—we have lost old nations,
And countless kings have into dust been humbled,
While not a fragment of thy flesh has crumbled.

Didst thou not hear the pother o'er thy head
When the great Persian conqueror, Cambyses,
Marched armies o'er thy head with thundering tread,
O'erthrew Osiris, Orus, Apis, Isis,
And shook the pyramids with fear and wonder,
When the gigantic Memnon fell asunder?

If the tomb's secrets may not be confessed,
The nature of thy private life unfold;—
A heart has throbbed beneath that leathern breast,
And tears adown that dusky cheek have rolled;—
Have children climbed those knees, and kissed that face?
What were thy name and station, age and race?

Statue of flesh—immortal of the dead!
Imperishable type of evanescence!
Posthumous man, who quitt'st thy narrow bed,
And standest undecayed within our presence,
Thou wilt hear nothing till the judgment morning,
When the great trump shall thrill thee with its warning,

Why should this worthless tegument endure,
If its undying guest be lost forever?
O, let us keep the soul embalmed and pure
In living virtue; that when both must sever,
Although corruption may our frame consume,
The immortal spirit in the skies may bloom.

CI.—QUITO AND SOUTH AMERICAN SCENES.

The city of Quito is situated at an elevation of 10,233 feet above the sea, and is one of the highest inhabited points of the globe. Although almost immediately under the equator, its elevation imparts a degree of mildness and salubrity to its climate rarely found in the tropics. Its temperature averages about 60 degrees Fahrenheit, and may be truly described as that of eternal spring. Fenced around by distant mountains, and immediately surrounded by plains and fertile valleys, the city forms the center of one of the finest landscapes of the globe.

Skirting the horizon may be discerned eight snowy peaks of the Andes; and to the north and south of the city are the broad and beautiful plains of Anaquito and Turubamba. Quito has a number of large and elegant public squares, among which the Plaza San Francisco is prominent. Here, under their rude tents, are exposed the fruits and market vegetables for sale by the indolent but contented Indian and Spanish women.

Each square has a stone fountain in its center, supplied by subterranean aqueducts. The shops in the various pas-

sages of Quito present a curious appearance. A long covered passage contains a great number of booths or stalls, with different articles of merchandise, which are exhibited attractively at the door.

The government of Ecuador, of which Quito is the capital, is republican, as is also that of the adjacent countries of Venezuela and New Grenada. Vegetation on all these lands is most luxuriant. Nowhere on the American continent does the palm-tree attain a more colossal size, or yield more desirable products. The banana also grows spontaneously and without any culture; and, besides these, flourish many other native plants, such as pine-apples, tamarinds, cactuses, and the cow-tree.

CII.—THE ANDES.

Earth's towering mountains own thee king,—
  Thy head is crowned with snow,
Where the condor rests his weary wing,
  Where icy tempests blow.
The Pacific's trembling waves
  Are cow'ring at thy feet,
With pallid cheek like that of slaves,
  When thy stern glance they meet.

Thou ne'er hast stooped to hold commune
  With lowly things of earth;
Alike to thee is flowery June,
  Or cold December's birth;
Companionship thou hast with clouds,—
  They hover round thy head,
And wrap thy form in misty shrouds,
  Like winding-sheets the dead.

Thy head is soaring in the sky,
Thine eye, perchance, doth scan
The beauties of the world on high,
Where dwells the soul of man;
Perchance thou seest the matchless hand
That paints the sunset skies;
The world which circles that bright land
Where pleasure never dies.

CIII.—AMONG THE MOUNTAINS.

The mountains which give such variety to the world's appearance, and exercise such influence over climates and animal and human life, are really but minute wrinkles or folds on the earth's immense surface. As the rind of an apple in drying shrivels into folds, so the earth's surface has sunk in some places into mountain ranges and ridges. Notwithstanding the majestic size of mountains to the eye, their height does not make any sensible difference in the roundness of the immense globe on which they rest.

No mountain exceeds 29,000 feet in height, which is only one fifteen-hundredth of the diameter of the planet. This height in proportion to the size of the earth would correspond to the thickness of the edge of a sheet of paper laid on an ordinary orange. But ordinary mountains are less than half as high as this, and make but a very slight difference in the roundness of the great earth.

These slight folds of the earth's surface, which are so great to us, have been produced by the gradual cooling of the planet, which has made numerous cracks or fissures as well as these mountain ridges. The cracks were afterward

filled by liquid tides of melted rock, granite, basalt, and lava. It is in the province of geology to explain the making of mountains and their structure, in connection with the materials of which they are formed. We shall deal chiefly with their outward appearance, and the exploration of their heights by human effort.

Mountains which tower up in solitary greatness, either from the bosom of the sea or from some level plain, produce, more than all others, an effect of the highest grandeur, and make the most vivid impression on the mind. The mind's eye can hardly picture scenes superior in beauty to those formed by the graceful slopes and purple summits of solitary mountains, at the base of which a whole horizon seems spread out.

Among the most interesting records connected with mountain heights are those of their ascent. The climbing and exploration of mountains has always been a fascinating pursuit, and, at the present time, is become a complete passion. Alpine Clubs, or societies of mountain climbers, composed in great part of some of the most energetic and most intelligent scientific men of Western Europe, have devoted themselves to the task of vanquishing, one after another, every mountain top which has been hitherto considered inaccessible.

He who scales a mountain feels himself his own master, and responsible for his own life. His eye enables him to avoid the stones which lie in his path, to measure the depths of precipices, and to discover the rocky projections and clefts which will aid to climb the cliffs. The force and elasticity of his muscles will enable him to leap over safely the deepest *crevasses*, to maintain his footing on the steepest inclines, and to raise himself, step by step, up the most difficult passages.

With what joy does he afterward relate the slightest incident of the ascent: the stones rolling down the mountain slope, and plunging into the torrent beneath with a dead-

ened sound; the root to which he hung suspended when he scaled a wall of rock; the streamlet of snow-water at which he quenched his thirst; the first glacier *crevasse* over the brink of which he stooped, and yet dared to leap; the long and weary slope up which he so painfully climbed, with his legs buried knee-deep in the snow; finally, the topmost peak, from which he saw, spreading away in the mist of the horizon, the immense panorama of mountain, valley, and plain.

With regard to the intellectual pleasure which mountain climbing affords, which, however, is intimately bound up with the material joys of ascent, it is proportionately greater as the mind is more expanded, and the various facts of nature have been more successfully studied. The destructive action of water and snow is fully grasped by the scientific traveler; he watches the movement of the glaciers, and the rolling rocks or boulders making their way from the summits to the plains; he traces out the enormous level or inclined strata; he perceives the masses of granite upheaving the beds. Then, when he at last stands on some lofty peak, he can contemplate in its entirety the mountain edifice, with its ravines and its spurs, its snows, its forests, and its meadows; the hollows and the valleys which the ice, the water, and the tempest have carved in the immense relief are clearly defined, and the whole labor accomplished during thousands of centuries by all the geological agents is plainly seen.

Mountain ascents furnish some of the finest examples on record of human daring and perseverance in overcoming the most forbidding difficulties; and the narratives of these intrepid explorers of the rugged fastnesses of nature are read with great interest and give the best possible descriptions of the almost inaccessible regions which lie under the reign of perpetual winter.

CIV.—THE MOUNTAINS OF LIFE.

'There's a land far away, 'mid stars, we are told,
Where they know not the sorrows of time;
Where the pure waters wander through valleys of gold,
And life is a treasure sublime;
'Tis the land of our God, 'tis the home of the soul,
Where ages of splendor eternally roll,—
Where the way-weary traveler reaches his goal
On the evergreen mountains of life.

Our gaze cannot soar to that beautiful land,
But our visions have told of its bliss,
And our souls by the gale from its gardens are fanned,
When we faint in the deserts of this.
And we sometimes have longed for its holy repose,
When our spirits were torn with temptations and woes,
And we've drunk from the tide of the river that flows
From the evergreen mountains of life.

O! the stars never tread the blue heavens at night
But we think where the ransomed have trod;
And the day never smiles from his palace of light
But we feel the bright smile of our God.
We are traveling homeward, through changes and gloom,
To a kingdom where pleasures unchangingly bloom,
And our guide is the glory that shines through the tomb
From the evergreen mountains of life.

CV.—THE MOUNTAINS OF SCOTLAND.

The mountains of Scotland have long been noted for the peculiar beauty and grandeur of their scenery. They have also many historic associations which render them doubly

interesting to the traveler who wanders over their rugged sides.

The range known as the Grampian Hills is by far the most celebrated, and contains nearly all of the loftier peaks. The principal chain of the Grampians commences near Glencoe and Loch Etive in the west, and ends at the mouth of the River Dee, on the eastern coast, shooting off, at various points, an irregular succession of hills which, completely filling the upper part of Scotland, constitute the Highlands.

Ben Nevis, the highest mountain in Great Britain, lies in the west country, and a little off from the main line of the Grampians. Its height above the sea is 4,406 feet, and its circumference at the base is supposed to be above twenty-four miles. The mountain consists of two distinct terraces, on the lower of which is a wild mountain lake. Very little vegetation exists above this height.

Perhaps the most attractive resort for travelers is the Valley of Glencoe, situated some distance south of Ben Nevis. The lower portion of the glen is cultivated and wooded, but the signs of civilization gradually disappear on approaching the upper part, which presents a scene of unmingled wildness and grandeur. On both sides, steep mountains rise to a great height, while in the huge clefts of their rocky and blackened summits, wreaths of snow and clouds of mist may be seen all the year round.

This spot, so remarkable for its scenery, is also well known in Scottish history as the scene of the horrid "Massacre of Glencoe," which took place at the northwest end of the valley in the year 1692. In the August before, King William had issued a proclamation, offering pardon to all the Scotch chieftains who should take the oath of allegiance to the king before the last day of December. The chiefs of all the clans in rebellion took advantage of the proclamation; but Macdonald of Glencoe was prevented by accident from making his submission within the time

that had been set. The bad state of the mountain roads prevented him from reaching Inverary until after the last of December.

The sheriff of Argyleshire, however, after hearing his reasons for not coming before, administered to him the prescribed oath, and notified the Privy-Council of the fact. Several members of that body, having a hatred for Macdonald, withheld this notice from the king, who accordingly signed an order for the old chief's death. On the 1st of February, a company of soldiers were sent to Glencoe, where they were received with hospitality by Macdonald himself. After lodging under his roof thirteen days, they set upon the Macdonalds and murdered thirty-eight persons, including the chief. Several who escaped and fled to the mountains, perished from the cold and exposure.

One important feature of Highland scenery is the abundance of small mountain lakes. These form a beautiful contrast to the wild and rugged steeps wherein they are set. At the end of the Trosachs, a singularly picturesque and romantic defile, near Callander, lies Loch Katrine.

> "With promontory, creek, and bay,
> And islands that empurpled bright,
> Float amid the livelier light.
> And mountains that like giants stand
> To sentinel enchanted land."

In it is the lovely Ellen's Isle, celebrated by the poet Scott,

> "Where for retreat in dangerous hour,
> Some chief had framed a rustic bower."

The whole aspect of nature from this island is one of enchanting loveliness. The rugged mountains rising on all sides assume a softer hue from this distance. The crags and fissures, so terrible at a near approach, are here blended and softened with the luxuriant herbage, and the lake itself, protected from the winds, lies calm and clear as crystal.

CVI.—THE WIDOW OF GLENCOE.

Do not lift him from the bracken, leave him lying where he fell—
Better bier ye cannot fashion: none beseems him half so well
As the bare and broken heather, and the hard and trampled sod,
Whence his angry soul ascended to the judgment-seat of God!
Winding-sheet we cannot give him—seek no mantle for the dead,
Save the cold and spotless covering showered from heaven upon his head.
Leave his broadsword as we found it, bent and broken with the blow
That, before he died, avenged him on the foremost of the foe.
Leave the blood upon his bosom—wash not off that sacred stain;
Let it stiffen on the tartan, let his wounds unclosed remain,
Till the day when he shall show them at the throne of God on high,
When the murderer and the murdered meet before their Judge's eye.
Nay—ye should not weep, my children! leave it to the faint and weak;
Sobs are but a woman's weapons—tears befit a maiden's cheek.
Weep not, children of Macdonald! weep not thou, his orphan heir;
Not in shame, but stainless honor, lies thy slaughtered father there.
Weep not—but when years are over, and thine arm is strong and sure,
And thy foot is swift and steady on the mountain and the muir.
Let thy heart be hard as iron, and thy wrath as fierce as fire,
Till the hour when vengeance cometh, for the race that slew thy sire!
Till in deep and dark Glenlyon rise a louder shriek of woe,
Than, at midnight, from their eyry scared the eagles of Glencoe;
Louder than the screams that mingled with the howling of the blast,
When the murderers' steel was clashing, and the fires were rising fast;
When thy noble father bounded to the rescue of his men,
And the slogan of our kindred pealed throughout the startled glen;
When the herd of frantic women stumbled through the midnight snow,
With their fathers' houses blazing, and their dearest dead below!
Oh! the horror of the tempest, as the flashing drift was blown,
Crimsoned with the conflagration, and the roofs went thundering down!

Oh, the prayers, the prayers and curses, that together winged their flight
From the maddened hearts of many, through that long and woeful night—
Till the fires began to dwindle, and the shots grew faint and few,
And we heard the foeman's challenge only in a far halloo;
Till the silence once more settled o'er the gorges of the glen,
Broken only by the Cona plunging through its naked den.
Slowly from the mountain summit was the drifting veil withdrawn,
And the ghostly valley glimmered in the gray December dawn.
Better had the morning never dawned upon our dark despair!
Black amidst the common whiteness rose the spectral ruins there;
But the sight of these was nothing more than wrings the wild dove's breast,
When she searches for her offspring round the relics of her nest.
For in many a spot the tartan peered above the wintry heap,
Marking where a dead Macdonald lay within his frozen sleep.
Tremblingly we scooped the covering from each kindred victim's head,
And the living lips were burning on the cold ones of the dead.
And I left them with their dearest—dearest charge had every one—
Left the maiden with her lover, left the mother with her son,
I alone of all was mateless—far more wretched I than they,
For the snow would not discover where my lord and husband lay.
But I wandered up the valley, till I found him lying low,
With the gash upon his bosom, and the frown upon his brow—
Till I found him lying murdered where he wooed me long ago!
Woman's weakness shall not shame me—why should I have tears to shed?
Could I rain them down like water, O my hero! on thy head—
Could the cry of lamentation wake thee from thy silent sleep,
Could it set thy heart a-throbbing, it were mine to wail and weep!
But I will not waste my sorrow, lest the Campbell women say
That the daughters of Clanranold are as weak and frail as they.
I had wept thee hadst thou fallen, like our fathers, on thy shield,
When a host of English foemen camped upon a Scottish field—
I had mourned thee, hadst thou perished with the foremost of his name.
Where the valiant and the noble died around the dauntless Græme!
But I will not wrong thee, husband, with my unavailing cries,
Whilst thy cold and mangled body, stricken by the traitor lies;
Whilst he counts the gold and glory that this hideous night has won
And his heart is big with triumph at the murder he has done

Other eyes than mine shall glisten, other hearts be rent in twain,
Ere the heath-bells on thy hillock wither in the autumn rain,
Then I'll seek thee where thou sleepest, and I'll veil my weary head.
Praying for a place beside thee, dearer than my bridal bed:
And I'll give thee tears, my husband, if the tears remain to me,
When the widows of the foeman cry the coronach for thee!

CVII.—RUSSIAN PALACES.

Russia is the largest empire in the world, and comprises within its borders one hundred different tribes, who speak more than forty languages. Its metropolis is St. Petersburg, and that city, together with Moscow, contains most of the wealth, learning and other concomitants of civilization to be found in the Russian empire. A century and a half ago the site of St. Petersburg was but a low, marshy plain, in an almost uninhabited region. To-day it is covered by a city of more than half a million of people, with an area of thirty square miles; with broad, regular streets and immense squares lined with lofty buildings; the most signal triumph of human will over material obstacles that the later ages have shown. This is due to the energy and perseverance of the Russian monarchs, beginning with Peter the Great.

The buildings of St. Petersburg are remarkable for the splendor and magnitude of their architecture. Chief among these is the Winter Palace, the most spacious royal residence in the world. It has a front of 700 feet, and is in the form of a vast square. Rows upon rows of piles were driven into the ground for its foundation; and Turkish cannon were melted down to form the capital and orna-

ments for its base. The interior is gorgeous in the extreme, consisting of suites of magnificent halls filled with marbles, malachites, precious stones, vases, and pictures. While the emperor occupies it, the palace is said to contain 5,000 people.

Moscow, the ancient capital of the empire, is situated near the center of Russia, and 400 miles from St. Petersburg. Its streets are very irregular, and, as a general thing. the houses are insignificant in appearance. There are, however, some edifices which have become world-renowned. Among these we notice the Kremlin.

This structure is both fortress and altar; the religious heart of Russia; her Acropolis; the place or her holiest shrines, and the depository of her proudest trophies. About it the streets of Moscow arrange themselves as those of an English cathedral city do about the minster. Triangular in shape, and somewhat over a mile in circumference, it rises on the elevated bank of the Moskwa, quaint and grand, and indescribable. Massive stone walls close it round, irregular in design, pierced by gates and overhung with towers. Although St. Petersburg is the residence of the Czar, the most important events of their lives are solemnized in the Kremlin at Moscow; crowned in the cathedral of Assumption; wedded in that of Annunciation; and buried in that of the Archangel Michael.

Nearly in the center of the buildings of the Kremlin, and far overtopping them all, is the famous Ivan Veliki, or Tower of John the Great, which rises without ornament of any kind, to the height of 209 feet, and is surmounted by a gilded dome, on which, as on the other gilded domes of the Kremlin, the cross is displayed above the crescent. It consists of several stories, in each of which hangs a stupendous bell, one of them weighing 64 tons.

Another bell, nearly trebling this enormous weight, called Czar Kolokol, or the Emperor of Bells, stands at the bottom of the tower, on a pedestal of granite. To this position it

was raised in 1837, by the Emperor Nicholas, after having remained for a century buried on the spot where it is said to have fallen when the tower in which it was suspended was burned. Its height is 21 3/10 feet, and diameter 22½ feet. A huge fragment was broken from it by the fall.

Besides the imperial palaces in the Kremlin, are the Petrowski palace and gardens, outside of the St. Petersburg gate, the principal fashionable resort during the summer season, and the palace of the Empress Elizabeth. The former is a beautiful structure, in a circular shape, and surmounted at intervals by elegant towers.

CVIII.—MAMMOTH CAVE.

This celebrated cavern, hidden beneath the hills which line Green river, in Kentucky, is the most spacious known in the world. It has already been explored to a distance of ten miles, though many of its winding recesses, heavy with darkness and silence, have been passed by unvisited. It is known to contain 226 avenues, 47 magnificent chambers or halls, 23 deep pits, several lakes, 8 cataracts and 3 rivers.

Audubon's avenue, not far from the entrance of the cave, is more than a mile in length, fifty or sixty feet in width and as many in height. The Gothic avenue is two miles in length and of great beauty. In this avenue there is a large column, containing a niche or seat of peculiar appearance, called "The Devil's Arm-chair." The ceiling of the avenue is singularly beautiful, as the stalactites assume the most fantastic shapes. The church has a natural pulpit, behind

which is a recess, as if to accommodate an organ and choir. Wandering Willie's spring is a small rill of water trickling down from the roof. It is named from a country violinist, who wandered away from his party, had his lamp extinguished, and was found lying asleep beside the spring. Many names of visitors can be here seen, cut in the rock.

The entrance to Long Route is so narrow and low that it is passed with difficulty. Here, on the right, is seen the Giant's Coffin, a huge mass of rock, curiously resembling a coffin. The Bottomless Pit is on the main route, a mile and a half from the entrance. The depth of this black, awful precipice can hardly be imagined. Twisted wreaths of oiled paper, which are lighted and flung down into the chasm, die out before they can reach the bottom. It is said that two runaway negroes, hunted to the death in this gloomy labyrinth, flung themselves headlong into the shadowy gulf. A sounding line of nearly a thousand feet fails to reach the bottom.

Bandit Hall presents a scene of romantic wildness, and is a center from which several unexplored avenues branch off. Continually climbing and descending, one comes under the immense Mammoth Dome, whose cupola, 425 feet high, is lost in the flickering shadows. A winding pathway leads to a point very near its summit, which consists of a black vault besprinkled with shining crystals, and is known as The Star Chamber. Martha's Vineyard, six miles and a half from the entrance, takes its name from the appearance of the dark stalactite formations on the side and roof, which are thought to resemble grapes.

A distinguished English author says of this wonderful cavern: "I have described many things in my life; but, were you to offer me the world, I could not, either to my own or your satisfaction, describe what I have seen in the monarch of caves, from which I have just come."

CIX.—THE MAMMOTH CAVE.

All day, as day is reckoned on the earth,
I've wandered in these dim and awful aisles,
Shut from the blue and breezy dome of heaven,
While thoughts, wild, drear, and shadowy, have swept
Across my awe-struck soul, like spectres o'er
The wizard's magic glass, or thunder-clouds
O'er the blue waters of the deep. And now
I'll sit me down upon yon broken rock,
To muse upon the strange and solemn things
Of this mysterious realm.

All day my steps
Have been amid the beautiful, the wild,
The gloomy, the terrific. Crystal founts,
Almost invisible in their serene
And pure transparency—high pillar'd domes,
With stars and flowers all fretted like the halls
Of Oriental monarchs—rivers dark
And drear, and voiceless as oblivion's stream
That flows through Death's dim vale of silence,—gulfs,
All fathomless, down which the loosened rock
Plunges, until its far-off echoes come
Fainter and fainter, like the dying roll
Of thunders in the distance—Stygian pools,
Whose agitated waves give back a sound
Hollow and dismal, like the sullen roar
In the volcano's depths—these, *these* have left
Their spell upon me, and their memories
Have passed into my spirit, and are now
Blent with my being, till they seem a part
Of my own immortality.

God's hand,
At the creation, hollowed out this vast
Domain of darkness, where no herb nor flower
E'er sprang amid the sands; no dew nor rains,
Nor blessed sunbeams, fell with a freshening power,
Nor gentle breeze its Eden-message told

Amid the dreadful gloom. Six thousand years
Swept o'er the earth ere human footprints marked
This subterranean desert. Centuries,
Like shadows, came and passed, and not a sound
Was in this realm, save when, at intervals,
In the long lapse of ages, some huge mass
Of overhanging rock fell thundering down.
Its echoes sounding through these corridors
A moment, and then dying in a hush
Of silence, such as brooded o'er the earth
When earth was chaos.
The great mastodon,
The dreaded monster of the elder world,
Passed o'er this mighty cavern, and his tread
Bent the old forest-oaks like fragile reeds,
And made earth tremble. Armies in their pride,
Perchance, have met above it in the shock
Of war, with shout, and groan and clarion blast,
And the hoarse echoes of the thunder-gun.
The storm, the whirlwind and the hurricane
Have roared above it, and the bursting cloud
Sent down its red and crashing thunderbolt.
Earthquakes have trampled o'er it in their wrath,
Rocking earth's surface as the storm-wind rocks
The old Atlantic; yet no sound of these
E'er came down to the everlasting depths
Of these dark solitudes.
How oft we gaze
With awe or admiration on the new
And unfamiliar, but pass coldly by
The lovelier and the mightier! Wonderful
Is this lone world of darkness and of gloom,
But far more wonderful yon outer world,
Lit by the glorious sun. These arches swell
Sublime in lone and dim magnificence.
But how sublimer God's blue canopy
Beleaguered with his burning cherubim,
Keeping their watch eternal!
Beautiful
Are all the thousand snow-white gems that lie
In these mysterious chambers, gleaming out
Amid the melancholy gloom; and wild

These rocky hills, and cliffs, and gulfs; but far
More beautiful and wild the things that greet
The wanderer in our world of light—the stars
Floating on high, like islands of the bless'd—
The autumn sunsets glowing like the gate
Of far-off Paradise—the gorgeous clouds,
On which the glories of the earth and sky
Meet and commingle—earth's unnumbered flowers,
All turning up their gentle eyes to heaven—
The birds, with bright wings glancing in the sun,
Filling the air with rainbow miniatures—
The green old forests surging in the gale—
The everlasting mountains on whose peaks
The setting sun burns like an altar flame—
And ocean, like a pure heart, rendering back
Heaven's perfect image, or in his wild wrath
Heaving and tossing like the stormy breast
Of a chained giant in his agony.—

CX.—EUROPEAN WATER-FALLS.

It is in mountainous countries that water-falls are found in greatest magnitude. Cataracts are formed by the descent of a stream over a precipice which is perpendicular, or nearly so, and depend for their sublimity upon the height of their fall and the grandeur of the surrounding scenery. In Europe, the Alpine mountains contain many falls that have attained great celebrity. The Staubbach in the valley of Lauterbrunner, Switzerland, is one of these. It is one of the loftiest falls in Europe, measuring between 800 to 900 feet in height; and from this cause, and from the comparatively small body of water forming it, it is shivered by the wind into spray like dust long before it reaches the bottom, whence its name, literally, Dust-fall.

Strangers who expect in the Staubbach the rushing and roaring rapidity of a cataract will here be disappointed; but, in the opinion of many, this want is atoned for by other beauties peculiar to this fall. The friction of the rock, and the resistance of the air, retard the descent of the water, giving it the appearance of a beautiful lace veil suspended from the precipice, and imitating in its center the folds of the drapery. In winter, when the torrent is nearly arrested by the frost, a vast pyramid of ice is formed by the dripping of the water from above, increasing gradually upward in the manner of a stalagmite, until the colossal icicle reaches nearly half-way up the precipice.

The narrow stream which afterward swells into the Kauder river, experiences a series of remarkable cataracts or shoots in the Gemmi pass, also in Switzerland. The Gemmi is one of the most remarkable passes across the Alps, though its scenery is rather extraordinary than grand. The path along the side of the valley is the most perilous of all Alpine roads. Its zigzags have been very ingeniously contrived, for in many places the rocks overhang the path, and an upper terrace projects farther out than the one immediately below it. Down one of the sides of this valley the Kauder leaps at irregular intervals, forming a sight as beautiful as the surrounding scenery is magnificent.

The valley of Chamouni, above which towers Mont Blanc, the monarch of mountains, is beautifully situated and possesses much attractive scenery. From it many excursions may be taken in every direction, none of which lack the flavor of excitement. Glaciers, torrents, cascades, and cataracts exist in profusion. From the Breven, a point about 5,000 feet above Chamouni, a full view of Mont Blanc can be obtained, from foot to summit.

The river Clairée rushes down the valley in the side of Mont Cenis and drops into a deep basin by a sharp cascade; and then it boils and fills the whole valley with vapor. On descending the precipice to the lower valley, one can look

back and see the numerous streams of the Clairée from their starting point on the summit, as if they had issued from the sky; and the white lines of the torrent are traceable through three or four thousand feet of their descent.

CXI.—BRITISH CHURCHES.

Among the most noted of the church edifices of England and Scotland is Glasgow Cathedral. Its great age, of nearly eight hundred years, entitles it to rank as one of the parent specimens of English architecture. The town of Glasgow itself, has grown up around the Cathedral, like a thicket of young oaks around a common ancestor. Both spiritually and tangibly, the town spreads from that hilly spot on which the Cathedral stands.

The "High Church," by which appellation the Cathedral is mostly known to the inhabitants of Glasgow, is built upon a plot of ground about a hundred feet above the level of the Clyde. The greatest internal length of the building is about 320 feet; the breadth, 63; the height of the nave, 85 feet; and of the choir, 90. It is supported by 147 pillars, and is lighted by 157 windows, many of which, in the decorated style of pointed architecture, are of great beauty. There are indications that the building was intended to have had the form of a cross, but such is not its present form. From the center of the roof, where the "crossing" would be, rises a beautiful tower, the spire of which has an altitude of 225 feet above the floor of the choir.

After the Reformation, when the form of Divine service no longer required the magnificent vistas of the old cathedrals, the choir, or eastern division, was alone used as a church; but, as the wants of the Protestants increased, the western division, or nave, was also fitted up as a distinct church. Glasgow Cathedral is the only existing specimen of that kind of sacred structure still used and in good condition in Scotland, excepting that of Kirkwall in the Orkneys; all the others were more or less mutilated or destroyed at the Reformation.

Exeter Cathedral is the chief object of attraction in the town of Exeter, where it is situated. Though inferior in grandeur to a few other of the English churches, it is one of the finest of the second-class, and in some respects it is unique. The oldest part of the present edifice was erected early in the twelfth century. In 1112, William Warlewast, one of the Normans who followed William the Conqueror to England, and whom that monarch had created third bishop of Exeter, laid the first stone of the cathedral; but it was not completed till near the close of the century.

The entire length of the building is 408 feet, and the towers are 145 feet high. These are Norman—square and similar in size, their surfaces being covered with blank arcades, and other Norman ornaments. The remainder of the cathedral is of what is known as the decorative style of English architecture; and the numerous windows, with their flowing tracery, are among the finest examples of that rich style.

Durham Cathedral, founded in 1093, and one of the noblest edifices in the kingdom, is 507 feet in length, by 200 in breadth, and has a central tower 214 feet high. It is chiefly of Norman architecture, and contains the tomb of St. Cuthbert, the chapel of the Venerable Bede, a Galilee chapel, and two richly ornamented towers, 143 feet in height. The cathedral was long noted for being the center of the richest bishopric in England. Its revenue formerly

amounted to about $100,000, annually; but its arrangements were materially altered by the fixing of the bishop's income by the commissioners. This edifice affords a graphic illustration of the gradual changes in the English style of architecture between the tenth and fifteenth centuries.

Among the ruins of British churches, Melrose Abbey, situated about thirty-six miles south of Edinburgh, has attained a merited distinction. Its site was formerly occupied by a Cistercian Abbey, which was destroyed by the English under Edward II, but was subsequently rebuilt by Robert Bruce. The heart of that monarch, after having been carried to Spain by Douglas, was, on the death of that earl, brought home and buried beneath the high altar. The abbey was completed by James IV, but was again destroyed by the English in 1545. Although this fine building suffered considerably from the hands of the Reformers, the main cause of its present ruinous condition must be traced to the carelessness and depredations of later times, when the stones were frequently carried off and employed in building other edifices.

Its architecture more nearly approaches to Continental structures, especially Strasbourg Cathedral; and the whole building is profusely ornamented with rich and exquisite carved work. Some of the piers are crowned with foliage, so delicately chiseled that a straw may be thrust in between the various stalks and leaves. The eastern window is much admired for the symmetry of its form, and the richness and delicacy of its ornaments.

CXII.—LAKE AND RIVER.

Geneva Lake has been beautifully described by Byron in the following lines:

"Clear, placid Leman! thy contrasted lake,
With the wild world I dwelt in, is a thing
Which warns me, with its stillness, to forsake
Earth's troubled waters for a purer spring.
This quiet sail is as a noiseless wing
To waft me from distraction; once I loved
Torn ocean's roar, but thy soft murmuring
Sounds sweet as if a sister's voice reproved,
That I with stern delights should e'er have been so moved.

It is the hush of night, and all between
Thy margin and the mountains, dusk, yet clear,
Mellowed and mingling, yet distinctly seen,
Save darkened Jura, whose capt heights appear
Precipitously steep; and drawing near,
There breathes a living fragrance from the shore,
Of flowers yet fresh with childhood; on the ear
Drops the light drip of the suspended oar,
Or chirps the grasshopper one good-night carol more.

At intervals, some bird from out the brakes
Starts into voice a moment, then is still,
There seems a floating whisper on the hill,
But that is fancy,—for the starlight dews
All silently their tears of love instill,
Weeping themselves away." * * *

Geneva Lake, called by the Romans Lacus Lemanus, has nearly the shape of a half-moon, its horns being turned toward the south. It is the largest lake in Switzerland, and is never frozen over, owing to its great depth. Though it wants the gloomy sublimity of the bay of Uri and the

sunny softness of the Italian lakes, with their olive and citron groves, it has peculiar charms of its own. There is a great variety of scenery in its neighborhood; the vine-covered slopes of Vaud contrast well with the abrupt precipices of Savoy. Near Geneva, the hills subside, admitting an exquisite view of Mont Blanc, whose snowy summit, though sixty miles distant, is often reflected in its waters.

The praise of the river Rhine has been often celebrated in prose and verse:

> "Adieu to thee, fair Rhine! How long delighted
> The stranger fain would linger on his way!
> Thine is a scene alike where souls united
> Or lonely contemplation thus might stray;
> And could the ceaseless vultures cease to prey
> On self-condemning bosoms, it were here,
> Where nature, nor too sombre, nor too gay,
> Wild but not rude, awful yet not austere,
> Is to the mellow earth as autumn to the year."

So sang the lone spirit of Byron's creation, and many travelers have since echoed in one way and another the words of the poet. The Rhine is distinguished alike by the beauty of its scenery and the rich fields and vineyards that clothe its banks. No river in Germany attracts so many tourists. Pleasant towns and villages lie nestled at the foot of lofty hills; above them, on all sides, rise rocky steeps and slopes clothed with vines; and every now and then the castles and fortresses of feudal times are seen frowning from precipices apparently inaccessible.

Among the latter may be mentioned the castle of Stolzenfels, finely placed on a jutting rock overlooking the river. Its picturesque outline and commanding position seem to justify its name of the "Proud Rock," and render it one of the most imposing feudal remains on the Rhine.

It is about twenty miles above Cologne that the glories of the Rhine commence with the beautiful cluster of mountains called the Siebengebirge.

Cologne itself is the largest and wealthiest city on the river, having a population of over 125,000. It is also a very ancient city, having owed its existence to a Roman *colonia* (Cologne) sent hither by the mother of the Emperor Nero.

The principal object of interest in the town is the cathedral, which we have described elsewhere. Cologne is connected by a bridge of boats with the village of Deutz on the opposite side of the Rhine.

CXIII.—THE SOLDIER OF BINGEN.

A soldier of the Legion lay dying in Algiers,
There was lack of woman's nursing, there was dearth of woman's tears,
But a comrade stood beside him, while his life-blood ebbed away,
And bent, with pitying glance, to hear what he might say:
The dying soldier faltered, as he took that comrade's hand,
And he said, "I never more shall see my own, my native land;
Take a message and a token to some distant friends of mine,
For I was born at Bingen—at Bingen on the Rhine.

"Tell my brothers and companions when they meet and crowd around,
To hear my mournful story, in the pleasant vineyard ground,
That we fought the battle bravely, and when the day was done,
Full many a corse lay ghastly pale beneath the setting sun;
And 'mid the dead and dying, were some grown old in wars,—
The death-wound on their gallant breasts, the last of many scars;
And some were young, and suddenly beheld life's morn decline,—
And one had come from Bingen—fair Bingen on the Rhine.

"Tell my mother that her other sons shall comfort her old age;
For I was still a truant bird that thought his home a cage.
For my father was a soldier, and even as a child
My heart leaped forth to hear him tell of struggles fierce and wild;

And when he died and left us to divide his scanty hoard,
I let them take whate'er they would, but kept my father's sword;
And with boyish love I hung it where the bright light used to shine
On the cottage wall at Bingen—calm Bingen on the Rhine.

"Tell my sister not to weep for me, and sob with drooping head,
When the troops come marching home again, with glad and gallant tread;
But to look upon them proudly, with a calm and steadfast eye,
For her brother was a soldier, too, and not afraid to die;
And if a comrade seek her love, I ask her in my name,
To listen to him kindly without regret or shame;
And to hang the old sword in its place (my father's sword and mine),
For the honor of old Bingen—dear Bingen on the Rhine.

"There's another—not a sister; in the happy hours gone by;
You'd have known her by the merriment that sparkled in her eye;
Too innocent for coquetry—too fond for idle scorning,—
O, friend! I fear the lightest heart makes sometimes heaviest mourning.
Tell her the last night of my life—(for ere the moon be risen
My body will be out of pain, my soul be out of prison)—
I dreamed I stood with *her* and saw the yellow sunlight shine
On the vine-clad hills of Bingen—fair Bingen on the Rhine.

"I saw the blue Rhine sweep along—I heard or seemed to hear
The German songs we used to sing, in chorus sweet and clear;
And down the pleasant river, and up the slanting hill,
The echoing chorus sounded, through the evening calm and still,
And her glad blue eyes were on me, as we passed with friendly talk,
Down many a path beloved of yore, and well-remembered walk!
And her little hand lay lightly, confidingly in mine,—
But we'll meet no more at Bingen—loved Bingen on the Rhine."

His trembling voice grew faint and hoarse—his grasp was childish weak—
His eyes put on a dying look—he sighed, and ceased to speak;
His comrade bent to lift him, but the spark of life had fled,—
The soldier of the Legion in a foreign land was dead!
And the soft moon rose up slowly, and calmly she looked down
On the red sand of the battle-field, with bloody corses strewn;
Yes, calmly on that dreadful scene her pale light seemed to shine,
As it shone on distant Bingen—fair Bingen on the Rhine.

CXIV.—HUDSON AND JAMES RIVERS.

As a commercial channel, probably no river in the United States of equal extent is so important as the Hudson. Situated in the most thickly settled part of the country, and connecting the two cities of New York and Albany—one the metropolis and the other the capital of the Empire State—it offers the best of facilities for transportation of merchandise and for incidental travel. Upward of seventy sail-vessels, all moving at the same time, have been counted from a single point of observation on its banks.

A great number of steamboats, many of them of immense size, also ply between New York, Albany, and the intermediate places. Some of these are among the most splendid water-craft in the world. Thirty-five years ago, there were only twenty-two sailing vessels navigating the Hudson. In 1852 this number had increased to 569, and the total number of vessels plying on its waters was 807. The first successful attempt at propelling crafts by steam was made upon the waters of this river by Robert Fulton in 1808.

The Hudson derived its name from Henry Hudson, a Dutch navigator, who ascended it in 1607. It rises in the Adirondack mountains, and its entire length is about 300 miles. Its scenery is in the highest degree picturesque, and in some places sublime. The banks are generally elevated, and not unfrequently rise to lofty eminences, many of which are rocky and precipitous. At the passage of the Highlands, 52 miles above New York, the view is eminently grand and imposing. On the west shore, about 30 miles below, commence what are called the "Palisades," a remarkable range of trap-rock, which rises perpendicularly from the margin

of the river nearly 500 feet, and extends 18 or 20 miles down the stream.

At the northern end of the Highlands there is an eminence called Breakneck Hill, which is 1,187 feet in height, and terminates in the promontory of St. Anthony's Nose. From its summit the prospect is charming. Below lies the river—at that distance, seemingly a placid, currentless body of water. Afar looms up from its bosom the rounded top of Polypus Island; while a thousand feet beneath winds the serpentine track of the Hudson River Railway.

West Point, the seat of the United States Military Academy, is on the Highlands, and for its natural scenery is unsurpassed in the country. The buildings of the Academy occupy a plateau nearly 200 feet above the Hudson, and cover an area of about one mile. As the visitor sits in the piazza of the hotel, which stands on the brow of the third plateau, he has before him, toward the north, the finest known pass in any river in the world. Toward the east are beautiful promenades on the summit of the rocks that overlook the river. The view from the ruins of old Fort Putnam is perhaps unequaled in its peculiar beauties.

The James River occupies nearly the same position toward Virginia that the Hudson does to New York. Its length is 450 miles, and it is navigable for vessels of light tonnage to Richmond, the State capital. James River passes through a fertile and populous country, and is an important channel of trade. Its banks are generally low and heavily wooded. During the late war the river, near its mouth, was the scene of many naval encounters, among which its most prominent was that of the "Monitor" and "Merrimack."

CXV.—BOSTON.

The city of Boston is the second in importance of our seaports, and has been a great commercial center since 1740. Its facilities for communication on land and sea are unsurpassed. Boston Harbor, with a surface area of 75 square miles, affords good anchorage for vessels of the largest class. It is easy of access, free from sand-bars, and seldom obstructed with ice. As a natural consequence, these advantages have been improved, and to-day the wharves and warehouses of Boston are on a scale of magnitude unrivaled by those of any other city of equal population.

The docks and wharves of old Boston, taken together, make up an aggregate length of over five miles. Many of them are stupendous structures. Long Wharf, lined with spacious warehouses, extends into the harbor 1,800 feet.

One of the oldest public buildings in the country is Faneuil Hall, the "Cradle of Liberty," as it is called. Here the orators Hancock and Adams roused the people to resistance of British oppression in the early colonial days. The structure is situated in Dock square, and is 100 feet long, 80 feet wide, and three stories high. It was originally commenced in 1740, by Peter Faneuil, who gave it to the town. The room in which meetings are held is 76 feet square and adorned with portraits of eminent Americans. Over the hall is a room used by the city militia companies for drill.

In the center of the grounds included within the Federal redoubt on Breed's Hill, now stands the obelisk known as Bunker Hill Monument. It is a square shaft, built of Quincey granite, 221 feet high, 31 feet square at the base, and 15 at the top. Inside of the shaft is a round, hollow cone, encircled by a winding staircase of 294 stone steps

leading to the summit. The monument was completed in 1842, its entire expense having been over $150,000; and in the next year it was dedicated, Webster being the orator, and the President of the United States and his whole cabinet forming a part of the vast audience.

The "Common" is a beautiful park in Old Boston, containing nearly fifty acres, and embracing almost every variety of surface, from the level plat to the gentle slope and abrupt ascent. Towering elms, some of which are a century old, enclose the borders, while within, graded walks, beautifully shaded, intersect each other in every direction. A fountain in the center of the Common sends up its crystal stream, whirling and sparkling, 60 or 70 feet into the air.

CXVI—OLD IRONSIDES.

Ay! tear her tattered ensign down;
Long has it waved on high,
And many an eye has danced to see
That banner in the sky;
Beneath it rung the battle-shout,
And burst the cannon's roar;
The meteor of the ocean air
Shall sweep the clouds no more.

Her deck once red with heroes' blood,
Where knelt the vanquished foe,
When winds were hurrying o'er the flood,
And waves were white below,
No more shall feel the victor's tread,
Or know the conquered knee,
The harpies of the shore shall pluck
The eagle of the sea!

O, better that her shattered hulk
Should sink beneath the wave;
Her thunders shook the mighty deep,
And there should be her grave.
Nail to the mast her holy flag,
Set every threadbare sail,
And give her to the god of storms,
The lightning and the gale!

CXVII.—NORTH AMERICAN INDIANS.

The tribes inhabiting the continent of America before the advent of the white races from Europe, are by some considered an aboriginal and single stock, by others a mixture of Mongolian, Polynesian, and Caucasian types, and by others as the grafting of old world races on a true American race. Their physical characteristics are as follows: Skin brown, or cinnamon-colored; hair long, black, and straight; beard scanty; eyes deep seated; nose broad but prominent; lips full and rounded; and face broad across the cheeks, which are prominent, but less angular than in the Mongolian, and with the features distinct. The general shape of the head is square, with low but broad forehead, back of head flattened, top elevated, face much developed, and powerful jaws.

Though active and agile in sports and pursuits of short duration, the Indian is inferior to the white race in labors requiring compactness of muscle and long-endured exertion; they can not endure so much fatigue, nor carry such heavy burdens as the Canadian *voyageurs;* and in the border warfare between the savages and whites, the former

generally were conquered in the close hug of mortal combat.

In the early part of the settlement of America by the whites, the character of the Indian was much different, and in many respects superior, to that of to-day. Then he was of haughty demeanor, taciturn and stoical to the last degree, cunning and watchful in the surprise, persevering in the pursuit, and revengeful in the destruction of his enemies; cruel to prisoners of war, without regard to age or sex, and when himself a captive enduring the most painful tortures without a murmur, and with such martyr-like fortitude as would seem impossible to more impressionable natures without the sustaining power of Christian faith; brave and too often ferocious in war; idle and grave in peace, except when engaged in hunting and amusements; hospitable and grateful for favors; of necessity a close observer of natural phenomena, his temperament poetic and imaginative, and his simple eloquence of great dignity and beauty of expression.

As a race, however, the animal propensities strongly preponderate over the intellectual, and render their civilization, even with the help of education and Christianity, an event hardly to be hoped for. So much so is this the case, that while they are almost inaccessible to the finer influences of society, they readily contract all the vices that are unhappily connected with it. The Indians of this country are now mostly confined to the region lying west of the Mississippi river, having been driven thither by the loss of their forests and hunting grounds, which have been converted into cities and cultivated districts by the whites.

In the Northwest the principal tribe seems to be the Chippewas, who are in general more peaceable than many of their brethren. Yet, even now, civilization, with tireless foot, is pressing on, and these, with all the rest, will in time be exterminated or compelled to go to the great forests of the North.

CXVIII.—THE NORTHWEST.

Much of that part of the United States known as "the Northwest," and generally understood as comprising the States of Minnesota and Wisconsin, contains objects of interest in works of nature and man that are well worthy of our notice. The land, for the most part, is extremely fertile, and to that is due the fact of its rapid settlement and growth during the past few years. Being situated also at some distance from the great centers of commerce, it has had occasion to produce cities of its own, and that of no mean size, which are in a measure independent of the older marts. St. Paul, the capital and metropolis of Minnesota, has a population of 25,000, which is each year greatly increasing.

A few miles above St. Paul, on the Mississippi river, is the town of Minneapolis, which has already attained great importance from its manufacturing interests. For these the most abundant facilities are afforded by the Falls of St. Anthony and Minnehaha in the neighborhood. The latter has justly acquired a celebrity for beauty and picturesqueness and become widely famous through the beautiful poem of Mr. Longfellow.

Minneapolis contains about 15,000 inhabitants, and like its neighbor, St. Paul, is growing. The fall in the river at this point is sixty-four feet, furnishing 120,000 horse-power—more than enough to drive every mill-wheel and factory in New England. Six million dollars have already been invested in manufacturing at this point. The only difficulty to be encountered is the preservation of the falls in their present position. Beneath the slate rock, over which the torrent pours, is a layer of soft sandstone which

rapidly wears away. Measures have been taken, however, to preserve the cataract in its present condition, by constructing an apron to carry the waters some distance beyond the verge of the falls, and thus prevent the breaking of the rock.

No one can look at the natural advantages of Minneapolis without coming to the conclusion that it is to be one of the great manufacturing cities of the world if the falls can be kept in their present position. Cotton can be loaded upon steamers at Memphis and discharged at St. Paul. The climate here is exceedingly favorable for the manufacture of cotton goods.

It is only a short ride to St. Anthony, on the east bank of the river, where we behold the Mississippi roaring and tumbling over the slate-stone ledges, and hear the buzzing and humming of the machinery of the saw-mills. St. Anthony was one of the earliest settled towns in the State. Its projectors were Southern men. Streets were laid out, stores erected, a great hotel built, and extravagant prices asked for land; but the owners of Minneapolis offered lots at cheaper rates, and found purchasers. The war came on, and the proprietors of St. Anthony being largely from the South, the place ceased to grow, while its rival on the western shore moved steadily onward in a prosperous career. But St. Anthony is again advancing, for many gentlemen doing business in Minneapolis reside there. The interests of the two places are now identical and will advance together.

The Falls of St. Anthony, unlike those of Minnehaha, are broken in several cascades, making them almost what might be termed rapids.

CXIX.—THE INDIANS.

Yet while, by life's endearments crowned,
To mark this day we gather round,
And to our nation's founders raise
The voice of gratitude and praise,
Shall not one line lament that lion race,
For us struck out from sweet creation's face?
Alas, alas for them!—those fated bands,
Whose monarch tread was on these broad, green lands,
Our fathers called them savage,—them, whose bread
In the dark hour those famished fathers fed.

We call them savage. O, be just!
Their outraged feelings scan,
A voice comes forth,—'tis from the dust,—
The savage was a man!

Think ye he loved not? Who stood by,
And in his toils took part?
Woman was there to bless his eye,—
The savage had a heart!
Think ye he prayed not? When on high
He heard the thunder's roll,
What bade him look beyond the sky?
The savage had a soul!

I venerate the Pilgrim's cause,
Yet for the red man dare to plead;
We bow to Heaven's recorded laws,
He turned to Nature for a creed;
Beneath the pillared dome,
We seek our God in prayer;
Through boundless woods he loved to roam,
And the Great Spirit worshipped there.

But one, one fellow-throb with us he felt;
To one divinity with us he knelt;
Freedom, the self-same freedom we adore,
Bade him defend his violated shore.

He saw the cloud ordained to grow
And burst upon his hills in woe;
He saw his people withering die,
Beneath the invader's evil eye;
  Strange feet were trampling on his father's bones;
At midnight hour he woke to gaze
Upon his happy cabin's blaze,
  And listen to his children's dying groans.

He saw, and, maddening at the sight,
Gave his cold bosom to the fight;
To tiger-rage his soul was driven;
Mercy was not, or sought, or given;
The pale man from his lands must fly,—
He would be free, or he would die.

Alas for them! their day is o'er,
Their fires are out from hill and shore;
No more for them the wild deer bounds;
The plough is on their hunting grounds;
The pale man's axe rings through their woods;
The pale man's sail skims o'er their floods;
  Their pleasant springs are dry;
Their children,—look! by power oppressed,
Beyond the mountains of the west
  Their children go—to die!

O, doubly lost! Oblivion's shadows close
Around their triumphs and their woes.
On other realms, whose suns have set,
Reflected radiance lingers yet;
There sage and bard have shed a light,
That never shall go down in night;
There time-crowned columns stand on high,
To tell of them who cannot die;
Even we, who then were nothing, kneel
In homage there, and join earth's general peal.
But the doomed Indian leaves behind no trace
To save his own or serve another race;
With his frail breath his power has passed away;
His deeds, his thoughts, are buried with his clay;

Nor lofty pile, nor glowing page
Shall link him to a future age,
  Or give him with the past a rank;
His heraldry is but a broken bow,
His history but a tale of wrong and woe,—
  His very name must be a blank.

Cold, with the beast he slew, he sleeps;
O'er him no filial spirit weeps;
No crowds throng round, no anthem notes ascend,
To bless his coming and embalm his end;
Even that he lived, is for his conqueror's tongue;
By foes alone his death-song must be sung;
No chronicles but their's shall tell
  His mournful doom to future times;
May these upon his virtues dwell,
  And in his fate forget his crimes.

CXX.—SINAI AND PALESTINE.

The Scripture associations connected with the land of the Jews are extremely numerous, but it is only possible for a few to be noticed, and that briefly, in our limited space. The beaten track for English travelers to Syria is from Egypt through the peninsula of Sinai. This region, whether viewed physically or historically, is one of singular interest. Sterile, wild, sublime in its scenery, it forms a striking contrast to Palestine. Its plains are dreary and destitute of verdure; its valleys are covered with sand or flinty gravel, and shut in by naked cliffs; its mountains rear up their heads in stern grandeur, without a tree or a shrub to relieve the eye.

Nature, however, has given to these mountain peaks other colors than those of heath or forest, which, if less beautiful, are not less striking—the black, purple, green, and red hues of their own rocks. The whole history of the peninsula of Sinai clusters round one brief period—the forty years' journey of the Israelites. Many theories have been advanced regarding the precise place where the Israelites crossed the Red Sea, but none of them have established its situation with a certainty.

Wody El Ain, a defile near the Red Sea, is the probable site of the Bible history in Numbers xi,—31:

"And then went forth a wind from the Lord, and brought quails from the sea, and let them fall by the camp, as it were a day's journey on this side, and as it were a day's journey on the other side, round about the camp, and as it were two cubits high upon the face of the earth.

"And the people stood up all that day, and all that night, and all the next day, and they gathered the quails; he that gathered least gathered ten homers; and they spread them all abroad for themselves round about the camp. And while the the flesh was yet between their teeth, ere it was chewed, the wrath of the Lord was kindled against the people, and the Lord smote the people with a very great plague."

Wody Maghareh, "the Valley of the Cave," is a singular valley filled with caverns and sculptures. The inscriptions are regarded as among the most remarkable and most ancient in the world. It is supposed that this was the site of Egyptian copper-mines as long ago as 4,000 B. C.

Wody Mukatteb, "the Written Valley," begins when Wody Maghareh ends. The general aspect of the valley is lofty; uninterrupted walls of sandstone, backed at some distance by rugged granite peaks, and having along their bases detached masses of rock. The name Mukatteb, "the written," is derived from the extraordinary number of inscriptions found in it. The mystery of these Sinaitic inscriptions, as they are called, has not yet been solved,

though it is supposed that many of them are of comparatively recent date.

Through all that region there is a wildness and desolation most striking. Mount Hernon is perhaps the bleakest and most uniting spot in Palestine. The mountain side is composed of limestone, and has a steep acclivity, generally covered with loose fragments of the rock, and a tuft of grass or a thorny shrub at intervals. This is occasionally varied by high banks of naked rock. Trees are few and far between, and all living creatures still fewer.

Hernon has three summits, situated like the angles of a triangle, and about a quarter of a mile from each other. They do not differ much in elevation. On one of the summits are curious and interesting ruins. Round a rock which forms the crest of the peak are the foundations of a rude circular wall, composed of massive stones; and within the circle is a large heap of hewn stones, surrounding the remains of a small and very ancient temple. It is supposed that this mountain was, ages ago, the great sanctuary of Baal, and it was to the old Syrians what Jerusalem was to the Jews.

CXXI.—BURIAL OF MOSES.

By Nebo's lonely mountain,
On this side Jordan's wave,
In a vale in the land of Moab
There lies a lonely grave,
And no man dug that sepulcher,
And no man saw it e'er;
For the angels of God upturned the sod,
And laid the dead man there.

That was the grandest funeral
That ever passed on earth;
But no man heard the trampling,
Or saw the train go forth,
Noiselessly as the daylight
Comes when the night is done,
And the crimson streak on ocean's cheek
Grows into the great sun,—

Noiselessly as the spring time
Her crown of verdure weaves,
And all the trees on all the hills
Open their thousand leaves,—
So, without sound of music
Or voice of them that wept,
Silently down from the mountain crown
The great procession swept.

Perchance the bald old eagle,
On gray Bethpeor's height,
Out of his rocky eyry
Looked on the wondrous sight.
Perchance the lion stalking,
Still shuns that hallowed spot,
For beast and bird have seen and heard
That which man knoweth not.

But when the warrior dieth,
His comrades in the war,
With arms reversed and muffled drum,
Follow the funeral car.
They show the banners taken,
They tell his battles won,
And after him lead his masterless steed,
While peals the minute gun.

Amid the noblest of the land
Men lay the sage to rest,
And give the bard an honored place
With costly marble dressed
In the great minster transept,
Where lights like glories fall,
And the sweet choir sings, and the organ rings,
Along the blazoned wall.

This was the bravest warrior
That ever buckled sword;
This the most gifted poet
That ever breathed a word;
And never earth's philosopher
Traced with his golden pen,
On the deathless page truths half so sage,
As he wrote down for men.

And had he not high honor?
The hill side for his pall;
To lie in state while angels wait
With stars for tapers tall:
And the dark rock pines, like tossing plumes,
Over his bier to wave;
And God's own hand, in that lovely land,
To lay him in the grave;

In that deep grave, without a name,
Whence his uncoffined clay
Shall break again—most wondrous thought
Before the judgment day,
And stand with glory wrapped around
On the hills he never trod,
And speak of the strife that won our life
With the Incarnate Son of God.

O lonely tomb in Moab's land,
O dark Bethpeor's hill,
Speak to those curious hearts of ours,
And teach them to be still.
God hath his mysteries of grace—
Ways that we cannot tell;
He hides them deep, like the secret sleep
Of him he loved so well.

CXXII.—CHURCHES AND TEMPLES.

Many of the most simple and durable, as well as the most costly and extensive buildings of all countries have been connected with religious worship. They range from the Altar-stone, such as Abraham and Jacob set, like the Irish Cromlechs and the English Stonehenge, to the most magnificent temples which human genius could devise or human labor erect. The vast and gloomy Pagodas of India, the graceful Temples of Greece, the fantastic Joss-houses of China, the Mosques of Turkey, the Cathedrals of Europe, the Churches of all Christendom, alike bear witness to the general human desire to raise and consecrate some structure for the services of religion.

The Jewish places of worship are called synagogues. These are generally high, plain buildings, though they are sometimes profusely decorated, as that of Amsterdam, which has a magnificent interior. They contain the Holy Ark, at the east wall, which all must face during certain prayers, the pulpit in the middle of the building, seats, lamps, and apartments for the alms-chest and utensils. Frankfort contains a very handsome synagogue; and a large and costly structure, of Oriental splendor, for that purpose, has recently been dedicated in New York. Almost every great city has some building for a synagogue of this scattered yet powerful people.

The Mormon religion is not a more extravagant departure from Christianity than is its huge tortoise-shell roofed temple, supported by short heavy pillars, from the common form of our churches. It is said, however, that this strange-looking building is easy to speak and hear in —no small recommendation.

Among the Hindoo temples, there are many buildings which are interesting, not less from their age than from their peculiar architecture. The great Temple of Bailoor, in the district of Myson, is a good illustration of this class of religious buildings. This is one of three or four temples which stand in an enclosure about four hundred feet square. The tower is divided vertically into four compartments by great flat bands, between each of which nestle fifteen repetitions of itself, five on the top of each other, in three rows.

The temple is built on a platform raised about three feet from the ground, and has three entrances. The exterior decorations are in a good state of preservation, and will bear comparison with any architecture to be found elsewhere, except in the best Greek styles. In fact, whether we look to its form and its completeness, or to the exquisite finish of its detail, this temple is the most perfect and beautiful example of Hindoo houses of worship. It was founded in 1114, by a wealthy native, to mark his conversion from the faith of Jaina to that of Vishnu.

Among the most conspicuous modern buildings in Jerusalem, is the Mosque of Omar, an elegant octagonal edifice erected A. D. 686 and 693, in the center of the area formerly occupied by the famous Temple of Solomon. Crowning the very summit of Moriah, its graceful proportions and noble dome strike the eye from afar; but when from the brow of Olivet we look down on its cloistered courts and colonnades, and miniature cupolas and tall cypresses—the Mosque itself rising proudly over all, glittering in the sunlight and reflecting every color of the rainbow—we feel we are indeed in that gorgeous East which fancy pictured before the mind's eye, when we used to revel in the Arabian Nights. The temple is one of the best specimens of Oriental architecture applied to the construction of Mohammedan religious buildings.

CXXIII.—NEW ORLEANS.

The metropolis of the Southern States is built on the convex side of a bend of the Mississippi river, and hence derives its appellation of "Crescent City." This configuration necessarily renders the direction of the streets very irregular. Though connected by railroads and canal with important points in all directions, the great avenue of the trade and commerce of New Orleans is the Mississippi river. Along the river front of the city the levee, or artificial embankment, is extended by a continuous series of wooden wharves or piers.

A sort of esplanade is thus formed, several miles in extent, which during the busy season presents a scene of singular variety and animation. At one end of the levee may be seen hundreds of flat-boats grounded on the "batture," and filled with cattle and produce. The quay is piled with lumber, pork, flour, and every variety of agricultural supplies, as if the Great Valley had emptied its treasures at the door of New Orleans.

Farther on is the steamboat landing. Here all is action—the very water is covered with life. Vessels of immense size move upon its bosom, acknowledging none of the powers of air. New Orleans is the greatest cotton-market in the world. A hundred steamboats are often discharging their cargoes of cotton at a time on the wharves, while huge piles, bale upon bale, and story upon story, cover the levee.

The streets, shops and dwellings of New Orleans, present an extraordinary variety of style and construction. The limits of the old city, as it existed under the French and

Spanish governments, are defined by Canal, Rampart and Esplanade streets. These streets are nearly 200 feet wide, with a side-walk and carriage-way on each side, and in the middle an unoccupied space (or "neutral ground," as it is called) planted with a double row of trees. Of late years, however, this space has been used for the tracks of the street-car lines. Within the above limits the streets are narrow, crossing each other at right angles, the houses compactly built, but without uniformity, the whole presenting the appearance of a European city.

CXXIV.—AN EVENING REVERIE.

The summer day is closed, the sun is set;
Well have they done their office, those bright hours,
The latest of whose train goes softly out
In the red west. The green blade of the ground
Has risen, and herds have cropped it; the young twig
Has spread its plaited tissues to the sun;
Flowers of the garden and the waste have blown
And withered; seeds have fallen upon the soil,
From bursting cells, and in their graves await
Their resurrection.

Insects from the pools
Have filled the air awhile with humming wings,
That now are still forever; painted moths
Have wandered the blue sky, and died again;
The mother-bird hath broken for her brood
Their prison shell, or shoved them from the nest,
Plumed for their earliest flight. In bright alcoves,
In woodland cottage with barky walls,
In noisome cells of the tumultuous town,
Mothers have clasped with joy the new-born babe.

Groves by the lonely forest, by the shore
Of rivers and of ocean, by the ways
Of the thronged city, have been hollowed out,
And filled, and closed. This day hath parted friends
That ne'er before were parted; it hath knit
New friendships; it hath seen the maiden plight
Her faith, and trust her peace to him who long
Had wooed; and it hath heard, from lips which late
Were eloquent with love, the first harsh word,
That told the wedded one her peace was flown.

Farewell to the sweet sunshine! One glad day
Is added now to Childhood's merry days,
And one calm day to those of quiet Age.
Still the fleet hours run on; and, as I lean
Amid the thickening darkness, lamps are lit,
By those who watch the dead, and those who twine
Flowers for the bride. The mother from the eyes
Of her sick infant shades the painful light,
And sadly listens to his quick-drawn breath.

O thou great Movement of the Universe,
Or Change or Flight of Time—for ye are one!
That bearest, silently, this visible scene
Into night's shadow and the streaming rays
Of starlight, whither art thou bearing me?
I feel the mighty current sweep me on,
Yet know not whither. Man foretells afar
The course of the stars; the very hour
He knows when they shall darken or grow bright;
Yet doth the eclipse of Sorrow and of Death
Come unforewarned.

Who next, of those I love,
Shall pass from life, or sadder yet, shall fall
From virtue? Strife with foes, or bitterer strife
With friends, or shame and general scorn of men—
Which who can bear?—or the fierce rack of pain,
Lie they within my path?—or shall the years
Push me, with soft and inoffensive pace,
Into the stilly twilight of my age?
Or do the portals of another life
Even now, while I am glorying in my strength,
Impend around me?

Oh, beyond that bourne,
In the vast cycle of being which begins
At that broad threshold, with what fairer forms
Shall the great law of change and progress clothe
Its workings? Gently—so have good men taught—
Gently, and without grief, the old shall glide
Into the new; the eternal flow of things,
Like a bright river of the fields of heaven,
Shall journey onward in perpetual peace.

CXXV.—THE DESTRUCTION OF POMPEII.

The following accurate account of the great eruption of Vesuvius was written immediately thereafter by the younger Pliny:

"There had been for several days before some shocks of an earthquake, which the less surprised us as they are extremely frequent in Campania; but they were so particularly violent that night, that they not only shook everything about us, but seemed indeed to threaten total destruction. * * * Though it was now morning, the light was exceedingly faint and languid; the buildings all around us tottered; and though we stood upon open ground, yet, as the place was narrow, there was no remaining without danger.

"We therefore resolved to quit the town. The people followed us in the utmost consternation; and as, to a mind distracted with terror, every suggestion seems more prudent than its own, they pressed in great crowds about us in our way out. Having got to a convenient distance from the houses, we stood still in the midst of a most dreadful and dangerous scene.

"The chariots which we had ordered to be drawn out were so agitated backward and forward, though upon the most level ground, that we could not keep them steady, even by supporting them with large stones. The sea seemed to roll back upon itself, and to be driven from its banks by the convulsive motion of the earth; it is certain, at least, that the shore was much enlarged, and that several sea animals were left upon it.

"On the other side, a black and dreadful cloud, bursting with a fiery serpentine vapor, darted out a long train of fire, resembling flashes of lightning, but much larger. Soon afterward the cloud seemed to descend and cover the whole ocean. My mother strongly conjured me to escape, which, as I was young, I might easily do; as for herself, she said, her age and feebleness rendered all attempts of that sort impossible. But I absolutely refused to leave her, and taking her hand I led her on; she complied with great reluctance, and not without many reproaches to herself for hindering my flight.

"The ashes now began to fall upon us, though in no great quantity. I turned my head, and observed behind us a thick smoke, which came rolling after us like a torrent. I proposed, while we had yet light, to turn out of the high road, lest she should be pressed to death in the dark by the crowd that followed us. We had scarce stepped out of the path when darkness overspread us, not like that of a cloudy night, or when there is no moon, but of a room when it is shut up. Nothing was to be heard but the shrieks of women, the screams of children, and the cries of men; some calling for their parents, others for their husbands; some wishing to die from the very fear of dying; some lifting their hands to the gods; but the greater part imagining that the last and eternal night was come which was to destroy the gods and the world together.

"At length a glimmering light appeared, which we imagined to be rather the forerunner of an approaching burst

of flame, than the return of day. However, the fire fell at a distance from us. Then again we were immersed in thick darkness, and a heavy shower of ashes rained upon us, which we were obliged every now and then to shake off; otherwise we should have been crushed and buried in the heap. At last, this dreadful darkness was dissipated by degrees, like a cloud of smoke; the real day returned, and even the sun appeared, though very faintly, and as when an eclipse is coming on.

"Every object which presented itself to our eyes, which were extremely weakened, seemed changed, being covered over with white ashes, as with a deep snow. We returned to Thisenum, where we refreshed ourselves as well as we could, and passed an anxious night between hope and fear —though indeed with a much larger share of the latter, for the earthquake still continued, while several enthusiasts ran up and down, heightening their own and their friends' calamities by terrible predictions."

CXXVI.—ENGLISH COLLEGES.

The English universities, like most of those which came into existence in remote times, were formed on the model of the University of Paris; and in the earlier period of their history bear a striking resemblance to the parent institution. Till 1836, England contained only two universities, those of Oxford and Cambridge. The origin of both is involved in obscurity, and it is, perhaps, impossible to decide at how early a period schools and places of general education existed in either.

The foundation of Oxford University is generally ascribed to Alfred the Great, but only from the reign of Henry I have we any authentic history of the institution. That monarch is said to have extended special patronage to Oxford as a seminary of learning. One of the earliest acts of the University was to break up into different colleges, each independent of the other, except as all were subordinate to the University as a whole. This arrangement was necessitated by the great number of students who could not be accommodated in the town, and for whom the different halls or colleges were erected.

Of these, the principal ones are Christ Church, Corpus Christi, Oriel, Merton, and University Colleges. Among the objects of interest connected with the University is the new museum, opened in 1860. This is a magnificent quadrangular building in the mediæval style. The principal front contains apparatus and lecture rooms; the various wings are devoted to anatomy, medicine, chemistry, etc. The inner quadrangle, called the Museum Court, is intended to contain the collections.

The University of Cambridge is a seat of learning of very ancient date, though Oxford is usually given the precedence in age. The present University statutes were given by Elizabeth, in the twelfth year of her reign. The University consists of seventeen colleges, each being a corporate body, but subject to the general laws of the University. The highest officer in the University is the Chancellor, who, however, has little to do with the internal management. He is usually some person of high rank, whose station enables him to protect and advance the interests of the University.

Many of the buildings of the various colleges are of remarkable beauty and splendor. The most important of these, though not the oldest, is Trinity College. It boasts of a glorious ancestry; their names are among the very highest in the list of English worthies—Bacon, Newton, Bentley,

Dryden, Byron, are but samples of the most distinguished of them—in the pursuits of theology, science, and poetry.

Trinity Library was erected by Sir Christopher Wren, and is generally considered one of his best works. It is undoubtedly a noble building externally; while its magnificent proportions and luminous appearance strike every one who enters it. The grand room is 190 feet long, 40 feet broad, and 38 feet high. The floor is of black and white marble; the doorways at the end of the room, and the presses containing the books, are profusely adorned with wood. A great number of busts of eminent men are set on the presses around the room. This library contains nearly 43,000 volumes, including many rarities. Clare Hall, a very pleasantly situated building, is said to date back to the time of Chaucer. It is not of any importance otherwise.

Eton College, in the town of Eton, was founded by King Henry VI, in 1440. Its purpose was to provide free instruction to such boys of promise as were unable to bear the expenses themselves. This did not hinder a great many children of wealthy parents from crowding to Eton, when its reputation for thoroughness of education was acquired. They, however, did not have the benefit of the king's charity.

The buildings of Eton were not completed until 1523, and the College itself was not exempt from trouble until after the Restoration; from that time it has continued in a course of steady prosperity until now, when it is perhaps in as flourishing a condition as at any previous date. The scholars are admissible between the ages of eight and fifteen. At seventeen they are elected to King's College, Cambridge, by examination, or, failing to pass, are superannuated. The scholars, on the foundation of Eton College, are lodged within the college walls; but, besides these, as we have heretofore mentioned, there are always a great many scholars known as *appidans*, who live in the town,

and belong chiefly to the higher ranks of society. In school, there is no distinction between the *appidans* and collegians.

By far the greater part of the college buildings are of brick, and, as a whole, they have a venerable and appropriate appearance. From a distance they form a striking group; the massive, but graceful chapel, rising proudly above the dark mass of buildings that surround it, destroys the heavy uniformity which they would else exhibit.

The quadrangle is an open space among the buildings, near the center of which stands a bronze statue of the royal founder. The sombre edifices that surround it wear a grave academic air. There is a propriety about their unassuming simplicity that makes itself felt, when the flutter and affectation of a more ambitious pile would only offend. Directly in front, the eye rests on the lofty gate-house, or clock-tower, a handsome specimen of the domestic architecture of the fifteenth century. It has a large central bay-window of great richness of design.

CXXVII.—CHRISTIANIA AND STOCKHOLM.

Sweden and Norway together occupy what is called the Scandinavian peninsula, a long, narrow strip of land formed by the Baltic and North seas. The two countries are separated by a range of mountains, along which a broad avenue cut in the forest, and having at certain intervals stone monuments, marks the line of division. Although united under one sovereign, they are each, according to the constitution, "free, independent, indivisible and inalienable."

The climate is healthy, and less severe than might be expected from the high latitude and elevation of surface, being considerably tempered by the sea and the warm southwest winds. The temperature is, on the whole, milder than that of any other region equally distant from the equator. The Norwegians are an industrious, frugal, and honest race, cold and reserved in manner, but kind and hospitable, simple in their habits, firm in purpose, and patriotic. The Swedish peasantry are an energetic, prudent, and well-educated class, and have already absorbed much of the landed property of the decaying aristocracy. The advance of all classes has, however, been much hindered by the prevalence of drunkenness, which, from immoderate potations of their fiery corn brandy, has been more common there than in any other country of Europe. The last twenty years has witnessed a great improvement in morality, due to the establishment of religious sects and temperance societies.

Christiania, the capital of Norway, is beautifully situated at the head of the fiord of the same name, an arm of the Skager Rack, extending inland about seventy-five miles. The city is built on an agreeable slope facing the south, and graduating into the country by means of innumerable villas intermingled with woods, and usually built in commanding situations.

The entire aspect of the town and surrounding scenery is exceedingly pleasing and peculiar. The town is regularly laid out, the streets wide and straight, crossing each other at right angles, and the houses are all constructed of brick or stone, though few of them have any pretension to architectural beauty. Among the most noteworthy buildings is the cathedral, which is really an imposing structure.

Christiania is of considerable antiquity, though it was formerly known by the name of Opslo, having been founded in 1058 by King Harald Hardrada. On its destruction by fire in 1624, the new city, with the new name, rose from its

ruins. It was not, however, until after Norway had been erected into an independent kingdom that the modern capital began to make rapid strides in wealth and importance.

Stockholm, the capital and largest city of Sweden, occupies a fine position on the strait that connects Lake Mälar with the Baltic. The city is built chiefly upon a number of islands, and consists of three principal divisions. It is handsomely designed, and has several squares and public walks ornamented with trees and statues. The surrounding country, and much of the ground upon which the city stands, are rocky and solid; yet it has been necessary, from the nature of other parts, to build much upon piles, whence the name Stockholm is derived, meaning island of piles.

The city has been likened to Venice, and there are several points of view which recall the southern city of the sea; but the resemblance is, of course, imperfect. The approaches by water are uncommonly beautiful, both on the lake side and the Baltic, commanding views probably unsurpassed of their kind. The most striking object from every point is the great rectangular palace, an immense structure, standing upon an eminence in the central island. Its vast, massive walls rise far above all the neighboring buildings, and its long straight lines need the relief afforded by the towers of the neighboring cathedral.

There are few cities in Europe whose general aspect is more attractive than that of Stockholm. There are vast ranges of buildings, relieved and overshadowed in the central part of the city by the majestic palace and church towers rising in their midst; in the northern district laid out with modern symmetry and elegance; and in the southern rising from the harbor terraced upon a noble amphitheater of rocky cliff; and all, or nearly all, reflected in the clear waves of lake and fiord.

From the corners of every street debouching upon the wide water-fronts, the eye encounters the richest and most remarkable pictures. Nowhere has nature disposed her

undulations of soil and curves of water boundary with more endless variety; and nowhere does she produce effects and perspective of more striking beauty. In the compass of a single evening walk one may pass through sombre forest and smooth pasture slopes, climb tall granite cliffs overhanging the glassy lake and bay, and glide through the busy seaport, filled with sails and moving industry of the granite quays, lined and adorned with beauties of architecture, with statues and monuments of art.

CXXVIII.—SCENES ABOUT JERUSALEM.

The brook Kidron is first mentioned in the Bible in connection with the flight of David during the rebellion of his son Absalom. It would seem that a portion of the Valley of Jehosophat, through which the brook runs, was used by the Jews as a burying-ground, from a very early period, and at the present day the left bank of the brook, as far up as Olivet, is paved with the white tomb-stones of countless descendants of Abraham. Northwest of the Damascus gate there is a slight depression in the broad ridge, and this is the head of the Kidron valley. The sides of the depression are whitened by jagged crowns of limestone, which everywhere project above the scanty soil.

The number of rock-tombs at this place, and the extent and beauty of some of them, impress the stranger more than anything else with the wealth and splendor of the ancient Jewish capital. The valley runs, for about half a mile, directly toward the city; it is shallow and wide,

dotted with corn-fields, and here and there a few old olives. It then sweeps round eastward, and then southward, becoming narrower, and the sides being steeper.

As it passes the base of the Mount of Olives, it affords a fine and picturesque view of that sacred hill. The olive trees here become more abundant, forming a little shady grove; their massive trunks, too, hollowed and half decayed, with the heavy gnarled boughs, have a venerable look, and leave the impression of remote antiquity. The spot has a solemn—almost a sacred—aspect, it is so completely shut out from the din of the city, from the view of public roads, and from the notice and interruptions of wayfarers.

An interesting relic in the vicinity of Jerusalem is the Pool of Gihon, which is supposed to have been constructed by King Hezekiah. He seems to have covered over the fountain by building subterranean chambers, like those at the pools of Solomon, and then to have conducted the water by underground channels into the city. The whole work was one of great magnitude and labor, as it was mostly cut through solid rock.

The little village of Bethlehem, near Jerusalem, is invested with peculiar interest, on account of having been the birth-place of Jesus. On this account it is only second to Jerusalem itself, in the eyes of the traveler through Palestine. Few will pass along the winding road that approaches it from the Holy City without calling to mind that wondrous event that has given its name to our era. But, independent of all associations, its appearance is striking. It is situated on a narrow ridge, which projects eastward from the central mountain range, and breaks down in abrupt terraced slopes to deep valleys on each side. The terraces—admirably kept, and covered with rows of olives, intermixed with the fig and the vine—sweep in graceful curves round the ridge, regular as stairs.

The place is first mentioned in connection with the

touching narrative of Rachel's death; Jacob buried his beloved wife "in the way to Ephrath, which is Bethlehem." It was to the house of Jesse, the Bethlehemite, that Samuel came, according to the command of the Lord, with his horn of oil to anoint David, then keeping his sheep in the neighboring desert. Bethlehem was for a time in the hands of the Philistines, when David and his men were in the cave of Adullam; and it was then that he strongly longed for "the water of the well of Bethlehem, which is by the gate;" and three of his "mighty men" immediately broke through the host of the enemy, periling their lives to gratify the whim of their chief. This well is still there, and forms a lasting memento of those historic times.

Of the several hills on which Jerusalem was built, Zion is the largest, and in many respects the most interesting. It occupies the south-western section of the ancient town. Its western and southern sides rise abruptly from the valley of Hinnom, and appear to have originally consisted of a series of rocky precipices rising one above another like stairs; but now they are partially covered with loose soil and rubbish of buildings. The southern brow of Zion is bold and prominent, and its position makes it seem loftier than any other point in the city. The summit of the hill affords a fine view of the city.

The Pool of Hezekiah lies in the center of a group of buildings on the west side of Christian street. It is about two hundred and forty feet long by one hundred and forty-four wide. The depth is not great, and the bottom is of natural rock, leveled and covered with cement. We are told of King Hezekiah that he "made a pool and a conduit, and brought water into the city," and also that "he stopped the upper water-course of Gihon, and brought it straight down to the west side of the city of David." (2 Kings, xx—20; and 2 Chron., xxxii—30.) From these words we can only infer that Hezekiah constructed a pool within the city on its western part. To such a pool the present reservoir corresponds; and it is also fed in a similar manner.

Could we only guarantee the genuineness of the site, no spot in Jerusalem would be more deeply interesting than the Holy Sepulchre; but, unfortunately, it is impossible to give a guarantee. The group of buildings erected by Constantine in 335 A. D., and called the Church of the Holy Sepulchre, has its entrance on a narrow, crooked street, sometimes called Palmer street. After descending a flight of rude steps, we come to a small paved court, along whose sides we observe the bases of a row of columns which probably at one time supported cloisters. In the center of the building stands the Holy Sepulchre. It is a square vault about six feet by seven, with a dome supported on short marble pillars. A slab of white marble on the sepulchral couch is cracked through the center and much worn at the edge by the lips of pilgrims.

The Mount of Olives is situated immediately beyond the Kidron, on the east of Jerusalem. It is more a ridge than a mount, graceful in outline and delicate in color, especially when seen from the brow of Zion on an evening in early spring. In the center is a rounded top, crowned by a little village, with its tapering minaret. The face of the hill is streaked horizontally with strips of green and gray—the former terraces of corn, the latter the supporting walls and ledges of rock—while the whole is dotted with olive-trees.

The summit of the Mount of Olives affords one of the most commanding and interesting views of Jerusalem and its surroundings. The best time for this view is in the early morning, when the valleys are still in shade, and the bright sun, lighting up the hills, throws them into bold relief. No name in Scripture calls up associations at once so sacred and so pleasing as that of Olivet. The "Mount" is so intimately connected with the private life of the Saviour, that we read of it and look at it with feelings of deepest interest and affection.

Here He sat with His disciples, telling them of the destruction of the Holy City. Here He related the beautiful Parables of the Ten Virgins and the Five Talents. Here

He was wont to retire on each evening for meditation and prayer. And here He came on the night of His betrayal to utter that wonderful prayer:—"O my Father, if it be possible, let this cup pass from me: nevertheless, not as I will, but as Thou wilt." And after death and the grave, He led His disciples out again over Olivet, as far as to Bethany, and after a parting blessing ascended to Heaven.

CXXIX.—THE MOUNTAINS OF ASIA.

The vast continent of Asia presents great chains of stupendous mountains, crowned with the loftiest summits on the earth. Its surface is largely composed of high plains, which rise at different points into masses of lofty mountains; and these diverge over large countries into an endless variety of inferior ridges.

The low Ural mountains divide the great northern plain by a gentle ascent and wooded slopes, without the gorges, glaciers, or precipices characteristic of a high range. The lofty chain of the Caucasus is an offshoot of the Asian highlands, 700 miles long. The central part of the chain is loaded with glaciers, while the lower slopes are rich with luxuriant vegetation. The Taurus extends along the southern coast of the highland of Asia Minor, rising to the height of 8,000 to 10,000 feet, while the northern coast is lined by a lower range, including the famous summits of Mount Olympus and Mount Ida.

The celebrated Lebanon ridges are from fifteen to twenty miles wide, and nearly a hundred miles long. The summits are rounded, bare, and of a grayish white color. The

eastern descent is rugged and abrupt; but the western is more gentle, and commands the loveliest views. Says that great traveler, Van de Velde: "I have traveled in no part of the world where I have seen such a variety of glorious mountain scenes within so narrow a compass. Not the luxurious Java, nor the richly wooded Borneo; not the majestic Sumatra or Celebes; not the Paradise-like Ceylon, far less the grand but naked mountains of South Africa, or the low impenetrable woods of the West Indies, are to be compared to the southern projecting mountains of Lebanon. In yonder lands all is green, or all is bare. An Indian landscape has something monotonous in its superabundance of wood and jungle, that one wishes in vain to see intermingled with rocky cliffs or with towns or villages. In the bare table-lands of the Cape Colony, the eye discovers nothing but rocky cliffs. It is not so, however, with the southern range of Lebanon. Here there are woods and mountains, streams and villages, bold rocks and green cultivated fields, land and sea views. Here, in one word, you find all that the eye could desire to behold on this earth." In contrast with this varied loveliness stand the barren hills of western Palestine and the desolate and frowning heights of the Sinaitic range.

The Persian mountains lie along the southern shores of the Caspian; and south of the cold and broken table-land of Iran rises the broad and lofty belt of the Kourdistan range. This range is prolonged in parallel ridges, separated by dry, long valleys, above the shores of the Persian gulf, and bounds the hot and sandy deserts which reach to the Indus. The peninsula of Hindostan rises from the eastern and western Ghaut mountains in the table-land of the Deccan, and ends in the Neilgherry hills, nearly 10,000 feet high.

The loftiest Asian mountains lie in the interior. They are the great Bolar mountain knot, from which a number of high ranges branch out, the Thian Shan, Altai, Kuen-

lun, Karakorum, and Himalaya mountains. These great ranges have not been fully explored, and but little is known of large parts of them. They surround and stretch out from the great central table-land. This vast protuberance of soil stretches across Thibet and Mongolia. Four great chains run from west to east, in the line of the earth's latitudes. To the north, on the frontier of China and Siberia, rises the group of the Altai; to the south, the majestic belt of the Karakorum and Himalayan Mountains, where we discover the loftiest summits of the world. The two other chains, going from north to south, are the Thian Shan, or "Celestial Mountains," and the Kuenlun, which is terminated on the west by Tsungling; these again, on the west, unite with the chain of Bolor-Tagh, or "Mountains of the Mist."

Of all the grand Asiatic ranges, the most remarkable, in height, extent, and natural grandeur, is the Himalaya. It consists of three distinct parts—the three forming one magnificent chain, the loftiest in the world. The Himalaya extends a distance of nearly 1,500 miles. No less than forty-five of its peaks are known to exceed 23,000 feet in height. Its passes are all above the summit of Mont Blanc. Its southern slopes, which are the best known, consist of three distinct regions—a grassy, marshy plain, a forest belt, and a tract of wreck and fragments, lying immediately at the foot of the true mountains, which raise their sublime peaks far, far above, in a sky of unclouded azure.

Vast glaciers occur in every part of the range above the snow line, and astound the spectator who ventures into the noiseless solitudes by a weird and truly unearthly grandeur. The valleys are so deep and narrow, and the mountains that hang over them in menacing cliffs are so lofty, that these abysses are shrouded in perpetual gloom, except where the rays of a noonday sun penetrate their depths. From the steepness of the descent the rivers shoot down with the swiftness of an arrow, filling the caverns with foam, and

the air with mist. At the very base of this wild region lies the elevated and peaceful valley of Bhotan, vividly green, and shaded by magnificent forests. Another rapid descent of 1,000 feet leads to the plain of the Ganges.

The loftiest point of the earth which man has succeeded in attaining, the most elevated region where he has planted his adventurous foot, is the Himalayan. The loftiest peak of the Himalaya, and of the whole world, is the *Guarisankar*. One of the most picturesque portions of the colossal chain of the Himalaya is the district of Sikkim. In this surprising region are comprised the most majestic contrasts. Glaciers roll their slowly-moving masses above the realms of snow; lower down, the roaring torrents sink, lost to the sight in profound abysses; still lower, through a leafy screen of magnolias, calm lakes spread out their glassy waters in the midst of emerald green pastures and of fertile valleys.

The most eloquent pen, says Hooker, the most skillful pencil, are equally powerless to place before the eye the forms and colors of these snowy mountains, or to excite the sensations and the thoughts which such sublime scenes at once arouse. Nothing can render the precision and sharpness of their lines, and still less the marvelous effect of the hues playing on the snowy slopes, the brilliant masses formed by the combinations of orange, gold, and crimson, the clouds illumined by the sunset, and finally the fantastic tint with which everything is clothed at the moment of twilight.

CXXX.—AVALANCHES AND LAND-FALLS.

Avalanches are those accumulations of snow which precipitate themselves from the mountains, either by their own weight or by the loosening effects of the sun's heat, into the valleys below, sweeping everything before them, and causing, at times, great destruction of life and property. The fearful crash which accompanies their descent is often heard at a distance of several leagues. The Alpine avalanches have usually a fixed time for descending, and an habitual channel down which they slide, which may be known by its being worn perfectly smooth—sometimes even appearing polished—by the heap of fragments at its base.

The greater part of these downfalls of snow occur with great regularity, so much so that an old mountaineer who is clever at discerning the signs of the weather, can often announce, by a mere glance at the surface of the snow, the exact time at which the subsidence will take place. At the outlets of the wide mountain amphitheaters in which the snows of winter are accumulated, narrow passages open, hollowed out in the thickness of the rock. Like torrents, only that they appear but for a moment and are suddenly gone, the masses of snow rush down the inclined beds afforded them by the narrow passages, and descend in long trains, until, arrived at the ledge of their ravine, they pour out over the slope

The particular way in which each avalanche descends is, of course, varied according to the shape of the mountain. Before the newly-fallen layers of flakes sufficiently adhere to the former snow, the mere tread of the chamois,

the fall of a branch from some bush, or even a resounding echo, is sufficient to disturb the unstable balance of the upper sheet of snow. At first it slides slowly over the hardened mass beneath, until, reaching a point where the slope of the ground assists its progress, it rushes down with an increasingly rapid movement. Every moment it becomes augmented by fresh beds of snow, and by the stones and brushwood, which it hurries along with it.

It makes its way over the ledges and passages, tears down the trees, sweeps away the houses which lie in its path, and, like the downfall of the side of a mountain, plunges into the valley, sometimes even reaching the opposite slope. All around the avalanche powdery snow rises in broad eddies; the air, being compressed laterally by the sinking mass, roars right and left in actual whirlwinds, which shake the rocks and uproot the trees. Thousands of trunks may sometimes be seen thrown down by nothing but the wind of the avalanche, when the latter traces out for itself a wide path across whole forests, and, as it passes, sweeps away the hamlets in the valley.

The avalanches seen and heard by summer tourists on the side of Mont Blanc and the Jungfrau are of a different kind from those described above, being caused only by the rupture of a portion of the glaciers, which give way under the influence of the mid-day sun, and falling on uncultivable and uninhabited spots. The spectacle of these distant snow avalanches thundering down the side of the mountain is sublime, and draws thousands annually to the heights above the Valley of Lauterbrunnen. A steep, zigzag path leads out of the valley. After nearly an hour of toilsome ascent, passing the houses of a scattered hamlet, it reaches a more gradual slope of meadow-land.

The Valley of Lauterbrunnen, beneath whose precipices the traveler has previously crept with some little awe, presents from this height the aspect of a mere trench; the Staubbach is reduced to a thin thread, and its upper fall and pre-

vious windings, before it makes its final leap, are exposed to view. The path crosses the meadows advancing towards the Jungfrau, which now rises in front of the spectator, with its vast expanse of snow and glacier, in all its magnificence. Not only its summit, but all the mass of the mountain above the level of the spectator, is white with perpetual snow of virgin purity, which breaks off abruptly at the edge of a black precipice.

The precipice which forms the base of the mountain, is channeled with furrows or grooves, down which the avalanches descend. The attention is first arrested by a distant roar, not unlike thunder, and in half a minute a gush of white powder, resembling a small cataract, is perceived issuing out of one of the upper grooves or gullies; it then sinks into a lower fissure, and is lost only to reappear at a lower stage some hundred feet below.

By watching attentively the sloping white side of the Jungfrau, the separation of the fragment of ice from the mass of the glacier, which produces this thunder, may be seen at the moment when disengaged and before the sound reaches the ear. Sometimes it merely slides down over the surface, at others it turns over in a cake; but in an instant after it disappears, is shattered to atoms, and, in passing through the different gullies, is ground to powder so fine that, as it issues from the lowest, it looks like a handful of meal; and particles reduced by friction to dust, rise in a cloud of vapor. The spectator must bear in mind that at each discharge whole tons of ice are hurled down the mountain, and that the apparently insignificant white dust is made up of blocks capable of sweeping away whole forests, did any occur in its course, and of overwhelming houses and villages.

The other avalanches pour down over the traveled mountain slopes, and are often sources of danger to explorers. An interesting account has lately been given by Tyndall of his adventures in one of these terrible snow-falls.

"We were walking, connected by a long rope, when the two leading men suddenly sank considerably above their waists. Bennen tightened the rope. The snow was too deep to think of getting out of the hole they had made, so they advanced one or two steps, dividing the snow with their bodies. Bennen turned around, and told us he was afraid of starting an avalanche.

"Boisonnet then advanced; he had made but a few steps when we heard a deep, cutting sound. The snow-field split in two, about fourteen or fifteen feet above us. The cleft was at first quite narrow, not more than an inch broad. An awful silence ensued; it lasted but a few seconds, and then it was broken by Bennen's voice: 'We are all lost!' His words were slow and solemn, and those who knew him felt what they really meant when spoken by such a man as Bennen. They were his last words.

"I drove my alpenstock into the snow, and brought the weight of my body to bear upon it; it went in to within three inches of the top. I then waited. It was an awful moment of suspense. I turned my head toward Bennen to see whether he had done the same thing. To my astonishment, I saw him turn round, face the valley, and stretch out both arms. The ground on which we stood began to move slowly, and I felt the utter uselessness of my alpenstock. I soon sank up to my shoulders, and began descending backwards. From this moment I saw nothing of what happened to the rest of the party. With a good deal of trouble I succeeded in turning around. The speed of the avalanche increased rapidly, and before long I was covered up with snow, and in utter darkness. I was suffocating, when, with a jerk, I suddenly came to the surface again. The rope had caught most probably on a rock, and this was evidently the moment when it broke.

"I was on a wave of the avalanche, and saw it before me as I was carried down. It was the most awful sight I ever witnessed. The head of the avalanche was already at the

spot where we had made our last halt. The head alone was preceded by a thick cloud of snow-dust; the rest of the avalanche was clear. Around me I heard the horrid hissing of the snow, and far above me the thundering of the foremost part of the avalanche. To prevent myself sinking again, I made use of my arms much in the same way as when swimming in a standing position.

"At last I noticed that I was moving slower; then I saw the pieces of snow in front of me stop at some yards' distance; then the snow straight before me stopped, and I heard, on a large scale, the same creaking sound that is produced when a heavy cart passes over hard frozen snow in the winter. I felt that I also had stopped, and instantly threw up both arms to protect my head, in case I should again be covered up. I had stopped, but the snow behind me was still in motion; its pressure on my body was so strong that I thought I should be crushed to death.

"This *tremendous* pressure lasted but a short time, and ceased as suddenly as it had begun. I was then covered up by snow coming from behind me. My first impulse was to try and uncover my head, but this I could not do; the avalanche had frozen by pressure the moment it had stopped, and I was frozen in. Whilst trying vainly to move my arms, I suddenly became aware that the hands, as far as the wrist, had the faculty of motion. The conclusion was easy: they must be above the snow. I set to work as well as I could; it was time, for I could not have held out much longer. At last I saw a faint glimmer of light. The crust above my head was getting thinner, and it let a little air pass; but I could not reach it any more with my hands. The idea struck me that I might pierce it with my breath. After several efforts I succeeded in doing so, and felt suddenly a rush of air toward my mouth. I saw the sky again through a little round hole. I was at length taken out: the snow had to be cut with an axe, down to my feet, before I could be pulled out."

In addition to these snow avalanches, there sometimes occur among mountains downfalls of earth and rock, which are even more tremendous than the largest avalanche of snow and ice. We shall close the present chapter with the selection of some notices of these terrible changes in the mountain citadels of the earth.

Perpendicular or overhanging rocks, which seem to hang suspended over the plains, sometimes suddenly become detached, and rush headlong down the mountain side; in their rapid fall they raise a cloud of dust, like the ashes vomited forth by a volcano; a horrible darkness is spread over the once pleasant valley; and the fall is known only by the trembling of the ground and the crushing din of the rocks striking together, and shattering one another in pieces. When the cloud of dust is cleared away, nothing but heaps of stones and rubbish are to be seen where pastures and cultivated land once were; the stream flowing down the valley is obstructed in its course, and changed into a muddy lake; the rampart of rocks has lost its old form, and on its sides, from which some fragments are still crumbling down, the sharpened edges point out the bared cliff, from which a whole quarter of the mountain has broken away.

Southward of Plaisance, in Italy, an ancient Roman town was buried, about the fourth century, and the large quantity of bones and coins that have been found proves that the fall of the rocks was so sudden that it did not even afford the inhabitants any chance of escape. Another Roman town, situated, it is said, on the banks of the Lake of Geneva, was completely crushed in A.D. 563, by a downfall of rocks; the declivity that it formed may still be seen advancing, like a headland, into the waters of the lake, which at this spot is not less than 520 feet deep. A terrible flood-wave, produced by the deluge of stones, invaded the opposite shores of the lake, and swept away all the habitations; every town and every village on the banks was demolished;

and they did not commence to rebuild them until the following century. Geneva itself was in part covered by the water, and the bridge over the Rhone was swept away.

No catastrophe of this kind has left more fearful remembrances of horror than the fall of a section of the Rossberg, on the 2d of September, 1806. The season, which had just terminated, had been very rainy, and the clay strata had gradually changed into a muddy mass; at last, the rocks above, losing their supporting basis, began to slip down the mountain side, plowing up the ground in front of them, as the bow of a ship pushes up the water before it. Suddenly a general break-up took place. In a moment an enormous mass, carrying with it its forests, meadows, hamlets and inhabitants, rushed down into the plain. Flames, produced by the friction of the rocks striking and rubbing against one another, broke in fiery jets from the half-opened mountain. The water deposited in the deep beds, suddenly converted into steam, burst out with explosive force, and showers of mud and stones were vomited out as from the mouth of a volcano.

The charming plains and four villages, inhabited by nearly a thousand persons, disappeared under the heaps of rubbish. The neighboring lake was partly filled up; and the furious wave which the falling mass drove up on to the banks swept away all the houses on it. The catastrophe occurred in so sudden a way that the very birds were killed as they were flying in the air. The portion of the mountain which slipped down was not less than two miles and a half long, by about 350 yards wide and thirty-five yards thick.

CXXXI.—ODE TO THE MOON.

Mother of light! how fairly dost thou go
Over those hoary crests, divinely led!
Art thou that Huntress of the Silver Bow,
Fabled of old? Or rather dost thou tread
Those cloudy summits thence to gaze below,
Like the wild chamois on her Alpine snow,
Where hunter never climb'd—secure from dread?
A thousand ancient fancies I have read
Of that fair presence, and a thousand wrought
Wondrous and bright,
Upon the silver light,
Tracing fresh figures with the artist thought.

What art thou like? sometimes I see thee ride
A far-bound galley on its perilous way;
Whilst breezy waves toss up their silvery spray;
Sometimes behold thee glide
Clustered by all thy family of stars,
Like a lone widow through the welkin wide,
Whose pallid cheek the midnight sorrow mars;
Sometimes I watch thee on from steep to steep,
Timidly lighted by thy vestal torch,
Till in some Latmian cave I see thee creep,
To catch the young Endymion asleep,
Leaving thy splendor at the jagged porch.

O thou art beautiful, howe'er it be!
Huntress or Dian, or whatever named—
And he, the veriest Pagan, who first framed
A silver idol, and ne'er worshipp'd thee;
It is too late now for the old Ephesian vows,
And not divine the crescent on thy brows;
Yet, call thee nothing but the mere mild Moon
Behind those chestnut boughs,

Casting their dappled shadows at my feet,
I will be grateful for that simple boon,
In many a thoughtful verse and anthem sweet,
And bless thy dainty face whene'er we meet.

In nights far gone—ay, far away and dead,
Before Care fretted with a lidless eye,
I was thy wooer on my little bed,
And watched thy silver advent in the sky;
Letting the downy hours of rest go by,
To see thee flood the heavens with milky light,
And feed thy snowy swans before I slept;
For thou wert then purveyor of my dreams—
Thou wert the Fairies' armorer, that kept
Their burnished helms, and crowns, and corslets bright—
Their spears and glittering mails;—
And ever thou didst spill in wandering streams,
Sparkles and midnight gleam,
For fishes to new gloss their argent scales.
Why sighs? why creeping tears? why clasped hands?
Is it to count the boy's expended dower?
That Fairies since have broke their gifted wands,
That young Delight, like any o'erblown flower,
Gave, one by one, its sweet leaves to the ground
Why then, fair Moon, for all thou mark'st no hour
Thou art a sadder dial to Old Time
Than ever I have found
On sunny garden-plot, or moss-grown tower,
Mottoed with stern and melancholy rhyme!
Why should I grieve for this? Oh I must yearn
Whilst Time, conspirator with Memory,
Keeps his cold ashes in an antique urn,
Richly emboss'd with childish revelry,—
With leaves, and clustered fruits, and flowers eterne
Eternal to the world, though not to me,—
Ay, there will those young sports and blossoms be
The deathless wreath and undecay'd festoon,
When I am hearsed within,
Less than yon pallid primrose to the Moon,
Whom now she watches through her vapors thin.

So let it be: before I lived to sigh,
Thou wert in Avon, and a thousand rills—
Beautiful orb! and so whene'er I lie
Trodden, thou wilt be gazing from thy hills—
Bless'd be thy loving light where'er it spills,
And blessed thy fair face, O Mother mild;
Still put a soul in rivers as they run;
Still lend thy lovely lamp to lovers fond,
And blend their plighted shadows into one;
Still smile at even on the bedded child,
And close his eyelids with thy silver wand!

CXXXII.—AN ADVENTURE AT THE NATURAL BRIDGE, IN VIRGINIA.

There are three or four lads standing in the channel below, looking up with awe to that vast arch of unhewn rocks, which the Almighty bridged over those everlasting butments "when the morning stars sang together." The little piece of sky spanning those measureless piers is full of stars although it is mid-day.

It is almost five hundred feet from where they stand, up those perpendicular bulwarks of limestone, to the key rock of that vast arch, which appears to them only of the size of a man's hand. The silence of death is rendered more impressive by the little stream that falls from rock to rock down the channel. The sun is darkened, and the boys have unconsciously uncovered their heads, as if standing in the presence-chamber of the majesty of the whole earth.

At last this feeling begins to wear away; they begin to look around them; they find that others have been there

before them. They see the names of hundreds cut in the limestone butments. A new feeling comes over their young hearts, and their knives are in their hands in an instant. "What man has done, man can do," is their watchword, while they draw themselves up, and carve their names a foot above those of a hundred full-grown men, who have been there before them.

They are all satisfied with this feat of physical exertion, except one, whose example illustrates perfectly the forgotten truth, that there is no royal road to intellectual eminence. This ambitious youth sees a name just above his reach; a name that will be green in the memory of the world, when those of Cæsar and Bonaparte shall rot in oblivion. It was the name of Washington. Before he marched with Braddock to that fatal field, he had been there, and left his name a foot above all his predecessors.

It was a glorious thought of the boy, to write his name side by side with that of the great father of his country. He grasps his knife with a firmer hand; and clinging to a jutting crag, he cuts a niche in the limestone about a foot above where he stands; he then reaches up and cuts another for his hands. 'Tis a dangerous adventure; but, as he puts his feet and hands into those niches, and draws himself up carefully to his full length, he finds himself a foot above every name chronicled in that mighty wall.

While his companions are regarding him with concern and admiration, he cuts his name in rude capitals, large and deep into that flinty album. His knife is still in his hand, and strength in his sinews, and a new created aspiration in his heart. Again he cuts another niche, and again he carves his name in larger capitals. This is not enough; heedless of the entreaties of his companions, he cuts and climbs again. The gradations of his ascending scale grow wider apart. He measures his length at every gain he cuts. The voices of his friends wax weaker and weaker, till their words are finally lost on his ear.

He now, for the first time, casts a look beneath him. Had that glance lasted a moment, that moment would have been his last. He clings with a convulsive shudder to his little niche in the rock. An awful abyss awaits his almost certain fall. He is faint with severe exertion, and trembling from the sudden view of the dreadful destruction to which he is exposed. His knife is worn halfway to the haft. He can hear the voices, but not the words, of his terror-stricken companions below.

What a moment! What a meager chance to escape destruction! There is no retracing his steps. It is impossible to put his hands into the same niche with his feet and retain his slender hold a moment. His companions instantly perceive this new and fearful dilemma, and await his fall with emotions that "freeze their young blood."

He is too high, too faint to ask for his father and mother, his brothers and sisters, to come and witness or avert his destruction. But one of his companions anticipates his desire. Swift as the wind, he bounds down the channel, and the situation of the fated boy is told upon his father's hearthstone.

Minutes of almost eternal length roll on, and there are hundreds standing in that rocky channel, and hundreds on the bridge above, all holding their breath, and awaiting the fearful catastrophe. The poor boy hears the hum of new and numerous voices both above and below. He can first distinguish the tones of his father, who is shouting with all the energy of despair: "William! William! don't look down! Your mother, and Henry, and Harriet, are all here, praying for you, keep your eye toward the top!"

The boy didn't look down. His eye is fixed like a flint toward heaven, and his young heart on Him who reigns there. He grasps again his knife. He cuts another niche, and another foot is added to the hundreds that remove him from the reach of human help from below.

How carefully he uses his wasting blade! How anx-

iously he selects the softest places in that vast pier! How he avoids every flinty grain! How he economizes his physical powers, resting a moment at each gain he cuts! How every motion is watched from below! There stand his father, mother, brother and sister, on the very spot where, if he falls, he will not fall alone.

The sun is now half way down the west. The lad has made fifty additional niches in that mighty wall, and now finds himself directly under the middle of that vast arch of rocks, earth and trees. He must cut his way in a new direction, to get from under this overhanging mountain.

The inspiration of hope is dying in his bosom; its vital heat is fed by the increasing shouts of hundreds, perched upon cliffs and trees, and others who stand with ropes in their hands, on the bridge above, or with ladders below. Fifty gains more must be cut before the longest rope can reach him. His wasting blade strikes again into the limestone. The boy is emerging painfully, foot by foot, from under that lofty arch. Spliced ropes are ready in the hands of those who are leaning over the outer edge of the bridge.

Two minutes more and all will be over. The blade is worn to the last half inch. The boy's head reels; his eyes are starting from their sockets. His last hope is dying in his heart; his life must hang upon the next gain he cuts. That niche is his last. At the last faint gash he makes, his knife, his faithful knife, falls from his little nerveless hand, and ringing along the precipice, falls at his mother's feet.

An involuntary groan of despair runs like a death-knell through the channel below, and all is as still as the grave. At the height of nearly three hundred feet, the devoted boy lifts his hopeless heart, and closes his eyes to commend his soul to God. 'Tis but a moment—there! one foot swings off! he is reeling—trembling—toppling—over into eternity!

Hark! a shout falls on his ear from above. The man who is lying with half his length over the bridge has

caught a glimpse of the boy's head and shoulders. Quick as thought the noosed rope is within reach of the sinking youth. No one breathes. With a faint, convulsive effort, the swooning boy drops his arms into the noose. Darkness comes over him, and with the words God and Mother! whispered on his lips, just loud enough to be heard in heaven—the tightening rope lifts him out of this last shallow niche.

Not a lip moves while he is dangling over that fearful abyss; but when a sturdy Virginian reaches down and draws up the lad, and holds him up in his arms before the tearful, breathless multitude, such shouting—such leaping and weeping for joy—never greeted the ear of a human being so recovered from the yawning gulf of eternity.

CXXXIII.—DESCRIPTION OF THE PYRAMIDS.

We were roused as soon as the day dawned, by Antony, our faithful Greek servant and interpreter, with the intelligence that the Pyramids were in view. We hastened from the cabin; and never will the impression made by their appearance be obliterated. By reflecting the sun's rays, they appear as white as snow, and of such surprising magnitude, that nothing we had previously conceived in our imagination had prepared us for the spectacle we beheld.

The sight instantly convinced us that no power of description, no delineation, can convey ideas adequate to the effect produced in viewing these stupendous monuments. The formality of their construction is lost in their pro-

digious magnitude; the mind, elevated by wonder, feels at once the force of an axiom, which, however disputed, experience confirms, that in vastness, whatsoever be its nature, there dwells sublimity.

Another proof of their indescribable power is, that no one ever approached them with other emotions than those of terror, which is another principal source of the sublime. In certain instances of irritable feeling, this impression of awe and fear has been so great as to cause pain rather than pleasure; hence, perhaps, have originated descriptions of the Pyramids which represent them as deformed and gloomy masses, without taste or beauty.

Persons who have derived no satisfaction from the contemplation of them, may not have been conscious that the uneasiness which they experience was a result of their own sensibility. Others have acknowledged ideas widely different, excited by every wonderful circumstance of character and of situation—ideas of duration, almost endless; of power, inconceivable; of majesty, supreme; of solitude, most awful; of grandeur, of desolation, and of repose.

Upon the 23d of August, 1812, we set out for the Pyramids, the inundation enabling us to approach within less than a mile of the larger Pyramid in our boats. Our approach to the Pyramids was through a swampy country, by means of a narrow canal, which, however, was deep enough; and we arrived, without any obstacle, at nine o'clock, at the bottom of a sandy slope, leading up to the principal Pyramid. Some Bedouin Arabs, who had assembled to receive us upon our landing, were much amused by the eagerness excited in our whole party, to prove who should first set his foot upon the summit of this artificial mountain.

With what amazement did we survey the vast surface that was presented to us, when we arrived at this stupendous monument which seemed to reach the clouds! Here and there appeared some Arab guides upon the immense

masses above us, like so many pigmies, waiting to show the way to the summit. Now and then we thought we heard voices, and listened; but it was the wind in powerful gusts sweeping the immense ranges of stone.

Already some of our party had begun the ascent, and were pausing at the tremendous depth which they saw below. One of our military company, after having surmounted the most difficult part of the undertaking, became giddy in consequence of looking down from the elevation he had attained, and, being compelled to abandon the project, he hired an Arab to assist him in effecting his descent. The rest of us, more accustomed to the business of climbing heights, with many a halt for respiration, and many an exclamation of wonder, pursued our way toward the summit.

The mode of ascent has been frequently described; and yet, from the questions which are often proposed to travelers, it does not appear to be generally understood. The reader may imagine himself to be upon a staircase, every step of which, to a man of middle stature, is nearly breast high, and the breadth of each step is equal to its height; consequently, the footing is secure; and, although a retrospect, in going up, be sometimes fearful to persons unaccustomed to look down from any considerable elevation, yet there is little danger of falling. In some places, indeed, where the stones are decayed, caution may be required, and an Arab guide is always necessary to avoid a total interruption; but, upon the whole, the means of ascent are such that almost every one may accomplish it.

Our progress was impeded by other causes. We carried with us a few instruments, such as our boat-compass, a thermometer, a telescope, &c.; these could not be trusted in the hands of the Arabs, and they were liable to be broken every instant. At length we reached the topmost tier, to the great delight and satisfaction of all the party. Here we found a platform thirty-two feet square, consisting of

nine large stones, each of which might weigh about a ton, although they are much inferior in size to some of the stones used in the construction of this Pyramid.

Travelers of all ages and of various nations have here inscribed their names. Some are written in Greek, many in French, a few in Arabic, one or two in English, and others in Latin. We were as desirous as our predecessors to leave a memorial of our arrival; it seemed to be a tribute of thankfulness due for the success of our undertaking; and presently every one of our party was seen busied in adding the inscription of his name.

The view from this eminence amply fulfilled our expectations; nor do the accounts which have been given of it, as it appears at this season of the year, exaggerate the novelty and grandeur of the sight. All the region toward Cairo and the Delta resembled a sea covered with innumerable islands. Forests of palm trees were seen standing in the water, the inundation spreading over the land where they stood, so as to give them an appearance of growing in the flood.

To the north, as far as the eye could reach, nothing could be discerned but a watery surface thus diversified by plantations and by villages. To the south we saw the Pyramids of Saccara; and, upon the east of these, smaller monuments of the same kind nearer to the Nile. An appearance of ruins might, indeed, be traced the whole way from these Pyramids to those of Saccara, as if they had once been connected so as to constitute one vast cemetery.

Beyond the Pyramids of Saccara we could perceive the distant mountains of the Said; and, upon an eminence near the Lybian side of the Nile, appeared a monastery of considerable size. Toward the west and southwest the eye ranged over the great Lybian Desert, extending to the utmost verge of the horizon, without a single object to interrupt the dreary horror of the landscape, except dark floating spots caused by the shadows of passing clouds upon the sand.

Upon the south-east side is the gigantic statue of the Sphinx, the most colossal piece of sculpture which remains of all the works executed by the ancients. The French have uncovered all the pedestal of this statue, and all the cumbent or leonine parts of the figure; these were before entirely concealed by sand. Instead, however, of answering the expectations raised concerning the work upon which it was supposed to rest, the pedestal proves to be a wretched superstructure of brick-work and small pieces of stone put together, like the most insignificant piece of modern masonry, and wholly out of character, both with respect to the prodigious labor bestowed upon the statue itself, and the gigantic appearance of the surrounding objects.

CXXXIV.—THE PARTHENON OF ATHENS.

Fair *Parthenon!* yet still must Fancy weep
For thee, thou work of nobler spirits flown.
Bright, as of old, the sunbeams o'er thee sleep
In all their beauty still—and thine is gone!
Empires have sunk since thou wast first revered,
And varying rites have sanctified thy shrine.
Mourn, graceful ruin! on thy sacred hill,
Thy gods, thy rites, a kindred fate have shared:
Yet art thou honored in each fragment still
That wasting years and barbarous hands have spared;
Each hallow'd stone, from rapine's fury borne,
Shall make bright dreams of thee in ages yet unborn.

CXXXV.—VIEW OF THE COLISEUM.

I went to see the Coliseum by moonlight. It is the monarch, the majesty of all ruins; there is nothing like it. All the associations of the place, too, give it the most impressive character. When you enter within this stupendous circle of ruinous walls and arches and grand terraces of masonry, rising one above another, you stand upon the arena of the old gladiatorial combats and Christian martyrdoms; and, as you lift your eyes to the vast amphitheater, you meet, in imagination, the eyes of a hundred thousand Romans, assembled to witness these bloody spectacles. What a multitude and mighty array of human beings! and how little do we know in modern times of great assemblies! One, two, and three, and at its last enlargement by Constantine, more than three hundred thousand persons could be seated in the Circus Maximus!

But to return to the Coliseum; we went up, under the conduct of a guide, upon the walls and terraces or embankments which supported the ranges of seats. The seats have long since disappeared; and grass overgrows the spots where the pride, and power, and wealth, and beauty of Rome sat down to its barbarous entertainments.

What thronging life was here then—what voices, what greetings, what hurrying footsteps up the staircases of the eighty arches of entrance! And now, as we picked our way carefully through the decayed passages, or cautiously ascended some mouldering flight of steps, or stood by the lonely walls—ourselves silent, and, for a wonder, the guide silent too—there was no sound here but of the bat, and none came from without but the roll of a distant carriage

or the convent bell from the summit of the neighboring Esquiline.

It is scarcely possible to describe the effect of moonlight upon this ruin. Through a hundred rents in the broken walls, through a hundred lonely arches and blackened passage-ways, it streamed in, pure, bright, soft, lambent, and yet distinct and clear, as if it came there at once to reveal, and cheer, and pity the mighty desolation. But if the Coliseum is a mournful and desolate spectacle as seen from within—without, and especially on the side which is in best preservation, it is glorious. We passed around it; and, as we looked upward, the moon shining through its arches, from the opposite side, it appeared as if it were the coronet of the heavens, so vast was it—or like a glorious crown upon the brow of night.

I feel that I do not and cannot describe this mighty ruin. I can only say that I came away paralyzed and as passive as a child. A soldier stretched out his hand for a gratuity, as we passed the guard; and when my companions said I did wrong to give, I told him that I should have given my cloak, if the man had asked it. Would you break any spell that worldly feeling or selfish sorrow may have spread over your mind, go and see the Coliseum by moonlight.

CXXXVI.—BRIDGES.

A bridge is a structure raised for the convenience of passing a river, canal or valley, and formed of various materials, such as timber, stone, iron, etc. The construction of perfect bridges is a complex operation, and even among ancient

nations, did not always keep pace with the progress of other arts. The type of the primitive bridges of earlier ages is to be found at the present day among rude and uncultivated nations, and consists simply of lintels of wood stretching from bank to bank, or when the span rendered this impracticable, resting on piers or posts fixed in the bed of the river.

The inevitable frequency of these in a rapid stream, and consequent contraction of the water-way, would result in a torrent injurious to navigation, and destructive to the piers themselves; hence it would be found essential to the stability of such structures, that the openings should be sufficiently wide to allow every facility for the passage of the water, and as this could only be effected by arches or trusses, it is evident that these inventions were perfected before bridges of any magnitude became common.

Stone bridges were first constructed by the Romans; neither in India, Egypt, nor Greece were they ever known. There were as many as eight important bridges in Rome. From the fall of the Roman empire to the establishment of modern Europe we have no account of any bridges worthy of note except those built by the Moors in Spain.

One of the oldest of modern bridges, as well as one of the most elegant, is the famous Rialto bridge of Venice. This was designed by Michael Angelo, and erected in 1590; it has a single span of 98½ feet, with 23 feet rise. Venice contains more bridges than any other city in the world, the whole number being estimated at 340. Pontoon bridges are of very ancient origin, and are very generally employed at the present day in military affairs, being used as temporary structures. Examples of boat-bridges as continual thoroughfares may be seen on the river Rhine, at Coblenz, Cologne, and other points.

The primitive suspension bridges were made of rope and were used in mountainous countries, for the passage of gorges. The ancient Peruvians constructed numerous bridges of this sort over the Andes, the principal materia

being ropes formed of the bark of trees; sometimes a roadway was constructed, and at others the transit was effected by means of a basket supported by a rope, and drawn over alternately from one side to the other.

The same plan is used to-day in some parts of Europe, a good instance being the rope-bridge at Carrick-a-rede, Ireland. The wire suspension bridge, the greatest of modern improvements in this class of work, has its finest example in the bridge over the Niagara river. Its span is 821 feet; 14,560 wires are employed in the cables; and their ultimate strength is estimated at 12,000 tons. The elevation of the railway track above the water is 245 feet, and so great is the stiffness of the wires that the passage of ordinary trains causes a depression of only three to four inches.

A notable example of the suspension bridge in Europe is the Conway bridge, crossing an estuary that divides the Welsh towns of Bangor and Chester. This has a span of 327 feet. The Pont de Toledo, at Madrid, is a good specimen of the massive style of bridge architecture. It is composed of immense semicircular arches and piers of brick, surmounted by a roadway ornamented with statues.

A fine specimen of the railway bridge may be seen in the Cannon street bridge, of London. For an example of the single span over a narrow gorge, the bridge over a cascade of the Rhone, near its source in Switzerland, may be mentioned. The Rhone takes its rise in one of the grandest glaciers of that country, at an elevation of about 5,400 feet above the sea. From this unfailing fount the Rhone pours down the rocks into the valley below, whence it swells into a great river. A bridle path leading over the mountain crosses the cascade by a solid structure founded on both sides of the gorge in the rocky ledges.

CXXXVII.—LANDSCAPE BEAUTY.

It is easy enough to understand how the sight of a picture or statue should affect us nearly in the same way as the sight of the original; nor is it much more difficult to conceive how the sight of a cottage should give us something of the same feeling as the sight of a peasant's family; and the aspect of a town raise many of the same ideas as the appearance of a multitude of persons. We may begin, therefore, with an example a little more complicated. Take, for instance, the case of a common English landscape —green meadows with grazing and ruminating cattle—canals or navigable rivers—well fenced, well cultivated fields—neat, clean, scattered cottages—humble, antique churches, with church-yard elms, and crossing hedgerows —all seen under bright skies, and in good weather.

There is much beauty, as every one will acknowledge, in such a scene. But in what does the beauty consist? Not, certainly, in the mere mixture of colors and forms; for colors more pleasing and lines more graceful (according to any theory of grace that may be preferred) might be spread upon a board, or a painter's pallet, without engaging the eye to a second glance, or raising the least emotion in the mind; but in the picture of human happiness that is presented to our imaginations and affections; in the visible and unequivocal signs of comfort, and cheerful and peaceful enjoyment—and of that secure and successful industry that insures its continuance—and of the piety by which it is exalted—and of the simplicity by which it is contrasted with the guilt and the fever of a city life; in the images of health and temperance and plenty which it exhibits to

every eye; and in the glimpses which it affords to warmer imaginations of those primitive or fabulous times when man was uncorrupted by luxury and ambition, and of those humble retreats in which we still delight to imagine that love and philosophy may find an unpolluted asylum.

At all events, however, it is human feeling that excites our sympathy, and forms the true object of our emotions. It is man, and man alone, that we see in the beauties of the earth which he inhabits; or, if a more sensitive and extended sympathy connect us with the lower families of animated nature, and make us rejoice with the lambs that bleat on the uplands, or the cattle that repose in the valley, or even with the *living* plants that drink the bright sun and the balmy air beside them, it is still the idea of enjoyment—of feelings that animate the existence of sentient beings—that calls forth all our emotions, and is the parent of all the beauty with which we proceed to invest the inanimate creation around us.

Instead of this quiet and tame English landscape let us now take a Welsh or a Highland scene, and see whether its beauties will admit of being explained on the same principle. Here we shall have lofty mountains and rocky and lonely recesses—tufted woods hung over precipices—lakes intersected with castled promontories—ample solitudes of unplowed and untrodden valleys—nameless and gigantic ruins—and mountain echoes repeating the scream of the eagle and the roar of the cataract.

This, too, is beautiful, and to those who can interpret the language it speaks, far more beautiful than the prosperous scene with which we have contrasted it. Yet, lovely as it is, it is to the recollection of man and the suggestion of human feelings that its beauty also is owing. The mere forms and colors that compose its visible appearance are no more capable of exciting any emotion in the mind than the forms and colors of a Turkey carpet. It is sympathy with the present or the past, or the imaginary inhabitants of

such a region, that alone gives it either interest or beauty; and the delight of those who behold it will always be found to be in exact proportion to the force of their imaginations and the warmth of their social affections.

The leading impressions here are those of romantic seclusion and primeval simplicity; lovers sequestered in these blissful solitudes, "from towns and toils remote," and rustic poets and philosophers communing with nature, and at a distance from the low pursuits and selfish malignity of ordinary mortals; then there is the sublime impression of the Mighty Power which piled the mighty cliffs upon each other, and rent the mountains asunder, and scattered their giant fragments at their base, and all the images connected with the monuments of ancient magnificence and extinguished hostility—the feuds, and the combats, and the triumphs of its wild and primitive inhabitants, contrasted with the stillness and desolation of the scenes where they lie interred; and the romantic ideas attached to their ancient traditions, and the peculiarities of the actual life of their descendants —their wild and enthusiastic poetry—their gloomy superstitions—their attachment to their chiefs—the dangers and the hardships and enjoyments of their lonely huntings and fishings—their pastoral shielings on the mountains in summer—and the tales and the sports that amuse the little groups that are frozen into their vast and trackless valleys in the winter.

Add to all this the traces of vast and obscure antiquity that are impressed on the language and the habits of the people, and on the cliffs and caves, the gulfy torrents of the land; and the solemn and touching reflection, perpetually recurring, of the weakness and insignificance of perishable man, whose generations thus pass away into oblivion, with all their toil and ambition; while nature holds on her unwavering course, and pours out her streams, and renews her forests, with undecaying activity, regardless of the fate of her proud and perishable sovereign.

CXXXVIII.—VEGETATION IN THE TROPICS.

Owing to the equatorial position, the variety of their surface, and their humid climate, the flora of the northern countries of South America is one of the richest on earth; but we can only cast a rapid glance at the several gradations of vegetable forms from the sea-side to the snows of the Andes.

From the level of the sea to the height of 3,300 feet extends the region of palm. Only three species flourish above these limits; one being the wax-palm, which often grows at an elevation of 9,000 feet; another is the royal palm, remarkable for its great size and beauty. On the lower plains is found the *moriche* palm, called by the missionaries the bread of life. Mingled with the palms are the *cardones* and *cacti* of candelabra forms, sensitive *mimosae*, pine-apple or *bromelia;* nor must we forget the *palo de vaca* or cow-tree, which yields on incision a nutritious fluid resembling milk.

In the forests thus richly stored with useful products, the plants which chiefly engross the stranger's attention and admiration are the arborescent grasses and tree-ferns. Beginning at an elevation above the sea of 600 feet and extending up to 9,000, are the febrifuge plants, sometimes forming great forests by themselves. Here, also, grow wild the aromatic vanilla, the plantain, and the deadly *strychnos*.

Of the cultivated plants, the first rank is due to the cacao. In the early settlement of the country, its culture was neglected, and it was not until about 1728, that the exportation of cocoa was very large. The cocoa and the

palm are now very extensively cultivated, and in some of the cities are so common as to be planted along the avenues for shade-trees. Another of the native productions is the century plant, or American aloe, which sometimes grows to an enormous size. With nature so bountiful, the wants of the population so few, and the demands of commerce so moderate, the cultivation of the soil is carried on very remissly, and the cultivated land of these regions bears but a small proportion to the whole.

Some of the more southern of the United States produce a vegetation that is tropical in character. Much of the land along the coast is low and swampy. South Carolina, though not as far south as some other States, has, from the peculiar formation of some of its soil, many of the characteristics that mark tropical regions. Its coast is skirted by a number of small islands which are shut off from the mainland by narrow channels which afford inland steamboat communication between Charleston and Savannah. These islands are low and flat, and produce the black-seed or sea-island cotton, the best known to commerce. Rice is also here produced, and tropical fruits flourish. Of the trees, the most common in these regions are the cypress and the palmetto.

CXXXIX.—THE MOON.

Often, when the sun has set beneath the opaque terrestrial sphere, and the deep nocturnal shadow of the earth is stretched before our gaze toward the stars, a mild, familiar face shines down upon the darkness, and turns its gloom to

silvery, dream-like light. That face, so steady in its watching, and so punctual in its visits to the night-veiled sky, is the radiant, ever-welcome moon.

The beautiful luminary that thus lights up the midnight heavens from time to time, has high and especial claims upon the consideration of man. It was the attached and close companion of this earth, even before the solid foundations of the sphere were laid; it saw the crude chaos moulded and rolled into a habitable form; it looked on when life and the human race appeared upon the scene; its benignant countenance contemplated the wastes of the primeval desert, as it now regards the fullness of the populous city, and the richness of the verdant plain.

From the earliest periods of human history the changing aspects of the moon have attracted the attention of man. The oldest nations of antiquity measured off the lapse of time by their recurrence. The Jews, Chaldeans, and the Greeks, all noted them closely, and contrived by their aid months that consisted of twenty-nine and a half and of thirty days alternately. Months at first were simply moons. There is no doubt that both Chaldeans and Egyptians were assiduous observers of the moon, but their assiduity, nevertheless, led them to very lame deductions. They made so little advance toward sound knowledge, that they soon passed from contemplating the object of their interest to bowing down before it.

The astrologers taught that the fates of men were governed by the movements of the stars; and accordingly they watched these movements, not that they might discover the causes that were concealed beneath them, but rather that they might build up fanciful schemes out of them. Each particular planet in the heavens was conceived to have its own especial character for good or evil, and to bear influence on human affairs according to its position with regard to its compeers of the sky. Among these star-rulers the moon was placed; but even in this shadowy company, the

benignant aspect of her lustrous face could make itself appear.

In this nineteenth century of advancing knowledge, we do not, however, any longer idolize the moon. The luminary of the night does not now present itself, either as a divinity, or as a power deputed by divinity, to rule over the moral aspects of human affairs. It is not now either an object of superstitious regard or of superstitious dread. The veil of mystery has dropped from its shining face, and we see, where the veil once was, features that are radiant with meaning, and beaming with clear intelligence.

The moon has no lustre of its own; it is a dark and invisible body, until it is clothed with borrowed splendor. Look at it when full, shining high up in the sky. The effulgence which it sheds has been primarily poured from the great source of light and heat that is then below the earth. Certain of the solar beams, as they speed on their journey toward the depths of the infinite, encounter the impermeable surface of the moon, and are thrown back from it upon the shaded portion of the earth that is turned from the sun. Let the earth come *directly* between the sun and the moon, and the bright face is blotted out from the sky. The moon, like any other dark body, becomes lustrous when placed in strong sunshine, but disappears when the light is cut off. Moonshine is simply diluted and softened sunshine. The moon receives about the same intensity of sunlight as the earth; but this becomes fainter and fainter with distance, as it is again scattered off from the reflecting surface. Hence, when it reaches the earth, it is but the silvery gleam we perceive.

According to the experiments of Wollaston, 800,000 full moons spread out in the sky would scarcely produce the illumination of diffused daylight. Yet that pale gleam, almost a positive shadow when contrasted with sunshine, is a wonderful glory when compared with absolute darkness. Twenty-seven thousand stars, as bright as the brightest we

know, would not compensate for the loss of the full moon if it were suddenly removed from the nocturnal heavens. How strangely different the same things seem when contemplated from opposite points of view!

At the full moon, the sun and earth are both on one side of that body, and therefore the illumined and the visible hemispheres meet in one. At the new moon the sun and earth are on opposite sides of the moon, and the illumined and visible hemispheres are therefore quite opposite. At all other times, more or less of the illumined hemisphere enters into the composition of the visible one, accordingly as the moon is gibbous, semicircular, or crescentic. All the changing appearances of the moon's phases may be imitated if a ball be painted black and a hemispherical case of stiff white paper be then fitted to one half of it, so that it can be made to sweep progressively over new portions of the ball as it is placed in front of the eye.

When we look at the moon as it floats through the heavens, we at once perceive that it is separated from us by some enormous chasm. We see, at a glance, that its silver beams come down to us through a transparent void which we can by no means hope to bridge over. If we ascend to the top of the highest mountain the human foot can climb, we do not seem to have approached at all nearer to its shining sphere. At first, it appears altogether impossible that man should ever succeed in carrying his measuring-chain across the abyss that thus lies before him, when he looks toward the moon; yet this surprising feat science has accomplished. It reveals to us that the moon is 240,000 miles distant from the earth.

If we fix our attention upon the familiar face of our moon, as it floats through the sky, we observe that it has distinctive features. This is especially plain if a small telescope is used. Its surface is everywhere covered with mottlings of shadow, any one of which may be so distinguished from the rest, that it can be recognized again at a future time.

If we watch these lunar spots from night to night, we are very soon struck with the fact that they are immovable in their relative positions. Certain irregular patches of shadow are always seen scattered in precisely the same way around the central portions of the disc. A small, separate, oval spot constantly appears close to the upper hand of the right hand margin. Near to the bottom, one speck of superior brilliancy invariably presents itself as the center of a cluster of radiating streaks. From this, it at once appears, that one side only of the moon is turned toward the earth; what may be on the other side we shall never know.

By observing the moon's face closely, night after night, we can make another interesting discovery concerning its condition. We find that the patches of shadow with which it is diversified, not only retain the same positions in the visible hemisphere, but that they are always to be seen, provided our own atmosphere is free from obscuring mists. The moon never has any clouds of its own—no kind of veil is ever drawn around it. Whenever it can be seen at all, it presents itself in the same peculiar distinctness and clearness of outline. Nothing ever conceals its surface, either from the solar glare or the terrestrial scrutiny. But this entire absence of clouds around the moon immediately suggests a still more important fact. Where there are no clouds it is extremely probable there is no atmosphere.

But what must be the result of the complete absence of air from any planet's surface? Suppose, for instance, that the air we breathe were to be suddenly destroyed, how many startling consequences would follow! No sound could be produced, for the vibrations of sound are propagated by the ærial particles—a reign of unbroken quiet would therefore be established; no breeze would blow, no refreshing shower would fall; the blue sky would disappear, and its place would be taken by a gloomy canopy of pitchy blackness, save only where the burning sun blazed out in unmitigated fierceness, as if it were a hole of fire. As the sun, after its

diurnal course, descended beneath the horizon, instantaneous darkness would take the place of the fiery blaze. No softening twilight would stand between day and night—no intermediate tints or grateful colors would be formed; every object would be intensely shining, or as black as jet. Life, too, would be blotted out from the scene. Where there was no air, there could be neither vegetable organization nor animal activity. The atmosphere is at once the food and the breath of vitality. Out of it plants take the materials of their cells and fibre; from it animals derive their elevated temperature, their motive powers, and their nervous energies. As the moon is without an atmosphere, we may safely infer that its surface is as dead as it is still. No wonder, therefore, that it wears so calm and unimpassioned an aspect as it looks toward our varied, ever-changing, restless world.

We see, when we look at the full moon through a good telescope, on a clear night, that some portions of its disc are darker than the rest; and that, in various other parts, streaks and specks of superior brightness are scattered about. Now, before we attempt to determine what these appearances indicate, we shall do well to watch their behavior during the growth of the moon. Let us commence our observation, for instance, soon after the crescent of the new moon has displayed itself in the sky. Night after night, we shall see the advancing sunlight creeping on over the lunar sphere, at the rate of about nine or ten miles an hour, when it crosses the regions near the center of the disc. If we are using a good telescope we shall at once observe that the film of advancing sunlight is not bounded in front by an even line like the border of the full moon; its outline is jagged, irregular, and broken.

The bright, starlike points that spring up in advance of the general field of illumination, are the tops of high mountains that catch the solar rays before the subjacent valleys and plains. The moon is a solid sphere, with its surface

broken up by irregular elevations and depressions, and the brighter parts of the lunar disc are the crests and peaks of the elevations, reflecting a stronger light than the more depressed places. If any of the points that have appeared first as islands of light in advance of the general field of sunlight, be watched until they have been for some time immersed in this general field, it will be found that they still retain their superior brilliancy, and can still be distinguished in strong relief upon the duller surface around.

But if these bright points are tops of mountainous projections, we ought to be able to see the shadows cast behind the peaks as the field of illumination advances beyond them; and we ought also to observe that these shadows progressively shorten as the sun rises higher and higher over the region where they fall. Any one standing on the cone of Mount Etna may see its shadow spread out to the westward beneath them, directly after sunrise, and growing shorter and shorter as the sun ascends the sky. Exactly in this way, then, we ought to see the shadows of the lunar mountains shorten or lengthen in the rising or declining sunlight; and the phenomenon must be far more striking than it is on the earth, on account of the contrast of the deep black shadow, unsoftened by any atmospheric refraction, with the brilliant sunshine around. And so, in reality, we find that we do.

If the shadows that are cast, as the sunshine creeps onward over the moon's sphere, be watched, it will become apparent that the lunar surface is not equally broken up everywhere. There are some broad districts on which scarcely any shadows occur, because none, saving very trifling projections, there rise from the general level. It is these comparatively flat regions that present themselves on the full moon as shadowy patches, and that were deemed seas by the old astronomers. They certainly have no water in them; for powerful telescopes show that, although they are comparatively level, they are, nevertheless, made up of

minor irregularities. They are nowhere so smooth as the surface of a liquid would of necessity be. They probably are the basins that would be filled with water, if there were any such material present on the moon, for most of them seem to be depressed a little into the moon's substance.

The mountains of the moon are not mountains in the common acceptation of the term; they are circular pits, hollowed out into the lunar substance, and surrounded by a ring-shaped elevated border, more or less abrupt and broken. The floor of the pit is in every case depressed far below the general surface of the moon; the ring-shaped ridges are, therefore, much more precipitous on the inner than on the outer side. Very frequently, one or more isolated peaks arise from the centers of these depressed floors. The lunar surface is completely studded with circular and rimmed depressions of this nature.

Enough has now been said to show that the physical aspect of the moon is altogether different from that of the earth, whose attendant it is. We have found, it will be remembered, that the large sphere that rolls around the earth at a distance of nearly a quarter of a million of miles, is composed of solid substance, and that it has its surface diversified by the presence of mountains, and valleys, and plains. We have also seen that there is no trace of water anywhere, or of water-worn deposits; and that the south-western part of the visible portion is made up of rugged mountains crowding upon mountains, while the north-eastern part is chiefly composed of wide-spread level plains. Besides this, we have ascertained that the mountains are chiefly ring-shaped ridges surrounding deep, circular depressions, some few only that skirt the northern plains being arranged into extended chains, resembling those that are common on the earth, and three bearing a remote likeness to volcanic cones; and that they are much larger, when compared with the moon's sphere, than the earth's mountains are when compared with the earth's sphere.

CXL.—THE VALE OF AVOCA.

The vale is well planted. The railway passes through Avondale. The mansions of Kingstown are passed on the right, and then appear the turrets of Castle Howard, the seat of Mr. Howard Brooke, standing on an eminence on the left of the river Avonmore, just above its junction with the Avonbeg. The river is crossed by a quaintly picturesque bridge, known as the Lion Bridge. The entrance to the demesne is by a castellated gate, surmounted by a lion passant, the crest of the Howard family. The structure, which is plain and chaste, gains much in effect from its position on an elevation of two hundred feet above the river. The hills around are richly planted. The view from the esplanade embraces the surrounding hills and the vale of Avoca.

The "Meeting of the Waters" is soon approached, where the Avonbeg unites with the Avonmore, and flows down the vale under the name of the Avoca, amid projecting rocks, o'erhanging trees, and every adjunct to picturesque effect. The tourist is apt to expect too much from such a place, forgetting that when the national poet sung—

> There is not in this wide world a valley so sweet
> As the vale in whose bosom the bright waters meet.
> Oh! the last rays of feeling and life must depart
> Ere the bloom of that valley shall fade from my heart.
>
> Yet it was not that nature had shed o'er the scene
> Her purest of crystal and brightest of green;
> 'Twas not her soft magic of streamlet or hill,
> Oh! no—it was something more exquisite still.

'Twas that friends, the beloved of my bosom, were near,
Who made each dear scene of enchantment more dear;
And who felt how the best charms of nature improve,
When we see them reflected from looks that we love.

Sweet vale of Avoca! how calm could I rest
In thy bosom of shade with friends I love best,
Where the storms that we feel in this cold world should cease
And our hearts, like thy waters, be mingled in peace.

he was drawing as much upon imagination in all likelihood as upon nature; and when we remember the lavishness of Moore's ideas, we must only be astonished to find nature so like poetry. The valley is indeed sweet, and cold must be the heart, and dull the head, which could pass through it unmoved; but if the tourist does not wish to meet with a disappointment, he must not expect too much.

It is difficult to convey a description of the Vale of Avoca in terms to come up to the expectation of the reader, or even to the reality of nature. A notice of it, by the author already quoted, may be of some assistance to the expectant tourist. "Beautifully picturesque groups of oaks and beeches, everywhere hung with ivy, constitute one of the main beauties of the Vale of Avoca. This, to some extent, is the character of all the valleys of Wicklow, through which rivers flow, while the summits of the mountains and the unwatered vales remain completely bare. The Irish oak differs materially from the English oak; yet this difference, so striking that you notice it at the first glance, is difficult to describe. The branches are less knotted and spreading. There seems to me to be more straight lines and fewer crooked ones; more length and less breadth in the Irish oak."

Another stranger, Prince Puckler Muskan, writes in glowing terms of the spot. "Just before sunset," he says, "I reached the exquisitely beautiful Avonsdale. In this paradise every possible charm is united. A wood which

appears of measureless extent; two noble rivers; rocks of every variety of picturesque form; the greenest meadows; the most varied and luxuriant shrubberies and thickets. In short, scenery changing at every step, yet never diminishing in beauty." An English writer gives a very different account of the place. "As to the 'Meeting of the Waters,'" he writes, "as the Irish are pleased to call the confluence of two little streams, pompously or poetically as you may please to decide, I think more has been made of it than either the waters or their meeting deserve. There are, in fact, two places in the valley where two streams meet, one toward the lower end where the scenery is rich and beautiful, the other, which I was assured to be the 'riglar' meeting, was higher up the vale; and I confess, on arriving at it, I was disappointed, and could not hesitate in giving preference to the place of the confluence of the two streams we had passed lower down."

CXLI.—APPROACHING THE ALPS.

The road up St. Gothard is a wonderful piece of engineering, mounting apparently inaccessible heights by a series of terraces or *tourniquets*, so that carriages are very easily driven up. The Reuss flows down, and the sound of the water is heard the whole distance, though the river is sometimes so deep below the road that one can scarcely see it. Then the rocky walls rise steep and bare on either side, seeming to rest on the deep foundations of the earth, and to support the sky on their summits.

I walked a considerable part of the way, to enjoy the wonderful scene more completely. It was a good day's journey to the Hospitenthal, or valley of the hospice, on the height of the pass. This valley is a beautiful spot, green and lovely in itself, though at so immense a height, and surrounded by snow-capped pinnacles. We spent the night here.

The next morning we started for the Turca Pass, and the Grimsel; but no more carriage roads. I was strongly tempted to walk the whole distance, from the Hospitenthal to Meyringen; but reflected that I was twenty years older than I was twenty years ago, and much heavier than when I was much lighter,—so I finally decided to compromise the matter by taking one horse for myself and our courier. The rest of the party had each a horse, and two men were employed to take Edie the whole distance, some fifty miles, in a chair.

Now, if I were animated by the proper traveler's spirit I should rise into the sublime, in my description of the appalling dangers from which we miraculously escaped. I should make each particular hair stand on end by telling you what dizzy heights we scaled by paths scarce a foot in width, along the edges of perpendicular precipices, ten thousand feet or more in depth. I should freeze your blood with horror, by depicting the mountainous masses of rock just tottering to their fall, by which we had to pass. I should make you shudder to think of the mighty glaciers we crossed, and the yawning crevasses a thousand feet deep, over which we were obliged to jump. I should thrill you with the thunder of the descending avalanche that came within a hair's breadth of burying us five hundred feet deep in snow. I should—. But enough of these awful adventures, that trip so freely from the pens of summer tourists.

In plain prose and rigid truth, the whole journey was exciting in the highest degree. The path *does* wind along the edges of tremendous precipices, and above it the rocky

mountain sides *do* rise sheer and awful up to heaven. Sometimes the path descends so steeply that it seems impossible to go down without breaking your neck; again it seems to go straight up into the air; and the wonder is, how any four-footed beast can possibly climb it, without rolling over backwards. If you look up, you half believe the mountain is coming down upon you; if you look down, you are struck by the exceeding probability that you may reach the bottom a great deal sooner than you intend. With all this, you have an abiding confidence in your sure-footed and faithful beast, and you know that he will carry you safely through.

I walked about half the whole distance, but it so happened that I rode over the worst parts of the way. I felt astonished, delighted, and constantly amazed by the grandeur of the gigantic scenery; and only once did I feel in the least startled with any sense of danger. In one place, in the steep side of an enormous rock, a way is scooped out, just deep enough for a horse to pass, and high enough for the rider if he stoops. The side of the road toward the abyss is guarded by a wooden railing. Near this spot a beggar girl had placed herself; and as my horse entered this rather critical passage, she came up and spoke in the peculiar inarticulate whine they all employ, standing between the horse and the rocky side. The horse shied an instant, pressed my leg against the slender railing, and I looked over into what really seemed a fathomless abyss. There was no actual danger, for the horse knew his footing exactly; but the appearance of danger set my blood in motion for a moment, and made my pulse beat at a pretty rapid rate.

CXLII.—ENGLISH SCENERY.

Haunts of my youth!
Scenes of fond day-dreams, I behold ye yet!
Where 'twas so pleasant by thy northern slopes,
To climb the winding sheep-path, aided oft
By scattered thorns, whose spiry branches bore
Small woolly tufts, spoils of the vagrant lamb
There seeking shelter from the noonday sun:
And pleasant, seated on the short, soft turf,
To look beneath upon the hollow way,
While heavily upward moved the laboring wain,
And, stalking slowly by, the sturdy hind,
To ease his panting team, stopp'd with a stone
The grating wheel.

Advancing higher still,
The prospect widens, and the village church
But little o'er the lowly roofs around
Rears its gray belfry and its simple vane;
Those lowly roofs of thatch are half conceal'd
By the rude arms of trees, lovely in spring,
When on each bough the rosy-tinctured bloom
Sits thick, and promises autumnal plenty.
For even those orchards round the Norman farms,
Which, as their owners mark the promised fruit,
Console them, for the vineyards of the south
Surpass not these.

Where woods of ash, and beech,
And partial copses, fringe the green hill foot,
The upland shepherd rears his modest home;
There wanders by a little nameless stream
That from the hill wells forth, bright now and clear,
Or, after rain, with chalky mixture gray,

But still refreshing in its shallow course
The cottage garden; most for use design'd,
Yet not of beauty destitute. The vine
Mantles the little casement; yet the brier
Drops fragrant dew among the July flowers;
And pansies ray'd, and freak'd and mottled pinks
Grow among balm, and rosemary and rue;
There honeysuckles flaunt, and roses blow
Almost uncultured: some with dark green leaves
Contrast their flowers of pure unsullied white·
Others like velvet robes of regal state
Of richest crimson, while, in thorny moss
Enshrined and cradled, the most lovely wear
The hues of youthful beauty's glowing cheek.—
With fond regret I recollect e'en now,
In spring and summer, what delight I felt
Among these cottage gardens, and how much
Such artless nosegays, knotted with a rush
By village housewife or her ruddy maid,
Were welcome to me; soon and simply pleased,
An early worshipper at Nature's shrine,
I loved her rudest scenes.

CXLIII.—A GRAIN ELEVATOR.

An elevator is as ugly a monster as has been yet produced. In uncouthness of form it outdoes those obsolete old brutes who used to roam about the semi-aqueous world, and live a most uncomfortable life with their great hungering stomachs and huge unsatisfied maws. The elevator itself consists of a big movable trunk—movable as is that of an elephant, but not pliable, and less graceful even than

an elephant's. This is attached to a huge granary or barn; but in order to give altitude within the barn for the necessary moving up and down of this trunk—seeing that it cannot be curled gracefully to its purpose as the elephant's is curled—there is an awkward box erected on the roof of the barn, giving some twenty feet of additional height, up into which the elevator can be thrust.

It will be understood, then, that this big movable trunk, the head of which, when it is at rest, is thrust up into the box on the roof, is made to slant down in an oblique direction from the building to the river; for the elevator is an amphibious institution, and flourishes only on the banks of navigable waters. When its head is ensconced within its box, and the beast of prey is thus nearly hidden within the building, the unsuspicious vessel is brought within reach of the creature's trunk, and down it comes, like a musquito's proboscis, right through the deck, in at the open aperture of the hold, and so into the very vitals and bowels of the ship.

When there, it goes to work upon its food with a greed and avidity that is disgusting to a beholder of any taste or imagination. And now I must explain the anatomical arrangement by which the elevator still devours and continues to devour, till the corn within its reach has all been swallowed, masticated and digested. Its long trunk, as seen slanting down from out of the building across the wharf, and into the ship, is a mere wooden pipe; but this pipe is divided within. It has two departments; and as the grain-bearing troughs pass up the one on a pliable band, they pass empty down the other.

The system, therefore, is that of an ordinary dredging machine; only that corn and not mud is taken away, and that the buckets or troughs are hidden from sight. Below, within the stomach of the poor bark, three or four laborers are at work, helping to feed the elevator. They shovel the corn up towards its maw, so that at every swallow he should

take in all that he can hold. Thus the troughs, as they ascend, are kept full, and when they reach the upper building they empty themselves into a shoot, over which a porter stands guard, moderating the shoot by a door, which the weight of his finger can open and close. Through this doorway the corn runs into a measure, and is weighed. By measures of forty bushels each, the tale is kept. There stands the apparatus, with the figures plainly marked, over against the porter's eye; and as the sum mounts nearly up to forty bushels, he closes the door till the grains run thinly through, hardly a handful at a time, so that the balance is exactly struck. Then the teller, standing by, marks down his figure, and the record is made. The exact porter touches the string of another door, and the forty bushels of corn run out at the bottom of the measure, disappear down another shoot, slanting also toward the water, and deposit themselves in the canal boat.

The transit of the bushels of corn from the larger vessel to the smaller will have taken less than a minute, and the cost of that transit will have been a farthing. But I have spoken of rivers of wheat, and I must explain what are those rivers. In the working of the elevator, which I have just attempted to describe, the two vessels were supposed to be lying at the same wharf, on the same side of the building, in the same water, the smaller vessel inside the larger one. When this is the case the corn runs direct from the weighing measure into the shoot that communicates with the canal boat.

But there is not room or time for confining the work to one side of the building. There is water on both sides, and the corn or wheat is elevated on the one side, and re-shipped on the other. To effect this the corn is carried across the breadth of the building; but, nevertheless, it is never handled or moved in its direction on trucks or carriages requiring the use of men's muscle for its motion. Across the floor of the building are two gutters, or channels, and

through these, small troughs on a pliable band circulate very quickly. Those which run one way, in one channel, are laden; those which return by the other channel are empty. The corn pours itself into these, and they again pour it into the shoot which commands the other water. And thus rivers of corn are running through these buildings night and day. The secret of all the motion and arrangement consists, of course, in the elevations. The corn is lifted up; and when lifted up can move itself, and arrange itself, and weigh itself, and load itself.

CXLIV.—SKETCHES OF CAVERNS.

Among the forms under which caverns present themselves, Humboldt gives only three principal kinds. The first appear in the form of cracks or fissures, like empty veins of ore, of greater or less extent, but narrow and considerably prolonged, often penetrating far into the mountain, and only reaching the day at one end. Eldon Hole, in the Peak of Derbyshire, England, is an example of this class. This is a deep, yawning chasm, in the limestone, but no longer considered one of the wonders of the region, as its presumed unfathomable depths have been measured.

In the reign of Queen Elizabeth, the Earl of Leicester is said to have hired a man to go down into it to ascertain its extent and form. The account of the adventure states that he was let down about two hundred ells, and after he had remained at the length of the rope a while, he was drawn up again, with great expectation of some discov-

eries; but he came up senseless, and died within eight days in a frenzied condition. Eldon Hole is a fissure about sixty feet long, twenty wide, and two hundred deep.

Many years ago Mr. Lloyd was let down with a rope by eight men, and found the light sufficiently strong at the bottom to allow him to read print. He discovered a crack in the rock at the bottom, through which a current of air proceeded; but as the opening was nearly filled up with huge stones, he could not examine it.

A former owner of the pasture in which the chasm is situated, having lost cattle by falling into it, made the attempt to fill it up, and threw down many loads of stone without any visible effect, some of which were probably those which choked the aperture reached by Mr. Lloyd. The whole extent and actual depth of Eldon Hole have not, therefore, been ascertained.

There is a second kind of caverns which are essentially distinguished from the first, by the circumstance that they reach the daylight at both ends, piercing through the rocks in which they are situated, and forming natural shafts.

Their appearance is very remarkable when they occur on the top of isolated mountain peaks, or of independent masses of rock; and when they are so straight that the daylight appears through them, they present a very remarkable aspect, and have been designated by the name of transparent caverns.

On this account, the so-named Martin's Hole is particularly celebrated. It penetrates the Tschingel Peak, one of the highest mountains of the Dodi chain; and twice in the year, in March and September, the sun appears as if through a pipe, and gives to the valley beneath a highly singular and pleasing effect.

The third and most frequent form of caverns is unquestionably that in which there is a series of extensions of nearly similar height and direction, which are connected with each other by passages of greater or less extent. This

is the form of the caverns of the Hartz, the Cave of Caripe, visited by Humboldt, of Antiparos, and of the Peak of Derbyshire. This is also the form of the more important caves of Franconia. The extent of these penetrations into the mountains, in particular of such as are situated in limestone, is often very extraordinary. In many of them the extremity has never been reached; and it appears from concurrent testimony that some of them have been explored for more than a mile in length.

Humboldt describes a somewhat dissimilar but very remarkable cavern in the western world, in the province of New Andulasia, not far from the convent of Caripe, called the Cavern of Guacharo—the name of a class of nocturnal birds which make it their abode. The entrance is a vaulted arch, eighty feet broad and seventy-two feet high; the steep rock that surmounts this opening is covered with gigantic trees, mixed with creeping and climbing plants and shrubs, brilliant with blossoms of the richest colors and the most varied forms. These form natural festoons, which hang from the mouth of the cave, and are gently agitated by the passing currents of air.

But this luxuriant vegetation was not alone confined to the exterior. The traveler, on following the banks of a subterranean stream into the grotto, beheld them, with astonishment, adorned for thirty or forty yards with the Praga palm trees, plantain-leaved heliconias, eighteen feet high, and arms that resembled trees in their size. It was not found necessary to light their torches till they had reached the distance of four hundred and thirty feet, owing to the continuous direction of the cavern, which allows the light of day to penetrate thus far; and when this began to fail, the hoarse cries of the nocturnal birds began to be audible from a distance.

The shrill, discordant noise made by hundreds of these birds, brought from the inmost recesses of the cave and reverberated from the arched roofs, formed an indescribable

clamor. The Indian guides, by fixing torches to the ends of long poles, showed the traveler the nests of the birds, which were constructed in funnel shaped holes, with which the roof of the grotto was pierced in all directions, and generally at about sixty feet high.

Still pursuing the course of the river, the cavern preserved the same width and height to the distance of fourteen hundred and fifty-eight feet from the mouth. The traveler, on turning round, was struck with the singularly beautiful appearance which a hill covered with the richest vegetation, immediately fronting the entrance of the grotto, presented. This, brilliantly illumined by the sun's rays and seen through the vista of a dark cave, formed a striking contrast to the surrounding obscurity; while the large stalactites depending from the roof were relieved against the luminous background of verdure.

After surmounting, with some difficulty, an abrupt rise in the ground where the stream forms a small cascade, he found that the cave diminished in height to forty feet, but retained its original direction. Here a blackish mould was found, either brought by the rivulet or washed down from the roof by the rain-water which penetrated the crevices of the rock; and in this he found seeds growing, which had been brought thus far by the birds, but so altered by the deprivation of light, that the species of plant thus produced under such unfavorable circumstances could not even be recognized. It was impossible to persuade the Indian guides to advance further. The cries of the birds, rendered still more horrible by the contraction of the cave, had such an effect on their minds that they absolutely refused to proceed; and, to the regret of Humboldt, he was compelled to retrace his steps.

CXLV.—THE GREAT DESERTS.

The most important group of deserts in the world is that of the Sahara, which extends across the African continent from the shores of the Atlantic to the valley of the Nile. This immense area is more than 3,100 miles from east to west, and is, on an average, more than 600 miles in breadth; it is, in fact, equal in size to two-thirds of Europe. This is the part of the earth in which the heat is most intense; although it is to the north of the equator, yet, as regards most of the world, it is the real *south*, and the principal point of attraction for the winds.

In this region there is only one season, viz., summer, burning and merciless. It is but rarely that rain comes to refresh these regions, on which the solar rays dart vertically down. The desert is very sandy. Throughout the greater part of its extent the soil is composed of gravel and large-grained sand, which does not give way, even under the foot of the camel. Some of the ranges of sand-hills which rise in this desert are chains of small hills, composed of heavy sand which resists the influence of the wind. The trade-winds which pass over the desert distribute these sandy masses into long waves like those of the ocean and here and there raise them into movable sand-hills, which overwhelm all the oases which lie across their path.

Off the coast which stretches between Cape Bojador and Cape Blanco, a line of sand-banks extends far out into the sea. These banks are constantly renewed by the desert-wind; and the Arabs, who go to collect the waifs and strays from shipwrecked vessels, can safely venture out several miles from the shore. A current of sand is therefore constantly passing across the desert from north-east to south-

west. The débris of rocks in a state of decomposition, and the particles brought to the coast of the Gulf of Cabes by the tide, which is very powerful at this point, are driven before the wind into the plains of the Sahel, and thence, after a journey lasting hundreds and perhaps thousands of years, they at last reach the sea-shore of the Atlantic, in order to recommence in the oceanic currents another course of wandering.

Some parts of the eastern Sahara are equally sandy; but the principal parts of the surface of this desert are occupied by plains of rock or clay, and by groups of grayish or yellowish mountains. The chains of sand-hills are numerous, and, like those of the west, they travel incessantly under the impulse of the wind in a south or south-west direction. Those districts of the Sahara which are destitute of oases present a truly formidable aspect, and are fearful places to travel over. The path which the feet of camels have marked out in the immense solitude points in a straight line towards the spot which the caravan wishes to reach. Sometimes these faint foot-marks are again covered with sand, and the travelers are obliged to consult the compass or examine the horizon; a distant sand-hill, a bush, a heap of camel's bones, or some other indications which the practised eye of the guide alone can understand, are the means by which the road is recognized.

Vegetation is rare, deprived as it is of the moisture which it requires; the only plants to be seen are the thistle and thorny mimosas; in some sandy districts there is a complete absence of all kinds of vegetation. The only animals to be found in the desert are scorpions, lizards, vipers and ants. During the first few days of the journey some indefatigable individuals of the fly tribe accompany the caravan, but they are soon killed by the heat; even the flea itself will not venture into these dreadful regions. The intense radiation of the enormous white or red surface of the desert dazzles the eyes; in this blinding light, every object appears to be

clothed with a sombre tint. Stagnant pools, or wells dug with great labor in some hollow, from the sides of which oozes out a scanty and brackish moisture, point out, each day, the end of the stage. But, often, this unwholesome swamp, where they hoped to be able to recruit their energies, is not to be found, and the people of the caravan must content themselves with the tainted water with which they filled their flasks at the preceding stage.

It is said that in times of great need the travelers have been compelled to kill their dromedaries in order to quench their thirst in the nauseous liquid which is contained in the stomach of these animals. Terrible stories are also told by the side of the watch-fire, of caravans being overtaken when amidst the sand-hills by a sudden storm of wind, and completely buried under the moving masses; they also tell of whole companies losing their way in the deserts of sand or rocks, and dying of madness after having undergone all the direst tortures of heat and thirst. The nights which follow the burning days in the Sahara are in general very cold. In fact, the air of these countries being entirely destitute of watery vapor, the heat collected during the day on the surface of the desert is, owing to the nightly radiation, again lost in space. The sensation of cold produced by this waste of heat is most acute, and especially so to the chilly Arab. Not a year passes without ice forming on the ground, and white frosts are frequent.

In all those countries in the Sahara, where the water gushes out in springs or descends in streams from some group of mountains, there is an oasis formed—a little green island, the beauty of which contrasts most strikingly with the barrenness of the surrounding sands. These oases, compared by Strabo to the spots dotted over the skin of the panther, are very numerous, and perhaps comprehend altogether an area equal in extent to one-third of the whole Sahara. In the greater part of this region, the oases, far from being scattered about irregularly, are, on the contrary

arranged in long lines in the middle of the desert. Thanks to this distribution of the oases, like beads on a necklace, the caravans dare to venture into the solitudes of the Sahara, their stages all being marked out beforehand by the patches of verdure which in turn rise on the horizon. To the east of Egypt, which may be considered as a long oasis situated on the banks of the Nile, the desert begins again and borders the whole extent of the Red Sea. A large part of Arabia presents nothing but sands and rocks, and towards the southeast there are solitudes which no traveler, either Arab or Frank, seems yet to have crossed.

To the east of the Arabian peninsula, the chain of deserts is prolonged across Asia. The principal part of the plain of Iran, surrounded by mountains which stop the rains in their passage, consists of sterile solitudes, some covered with salt-beds, the remains of dried-up lakes, others spread over with shifting sands, which the wind blows up into eddies, or dotted over with reddish-colored hills, which the mirage renders either nearer or more distant to the eye than they really are, incessantly modifying them according to the changes of the atmosphere.

Beyond the mighty central group, whence branch forth far and wide the mountain chains of Asia, the steppes and deserts, mutually alternating according to the topographical conditions, and the abundance or scarcity of water, extend over a space of more than 1,850 miles between Siberia and China proper. The eastern part of this belt is called, according to the language, Cobi or Chamo, that is to say, *the* desert, and from its great size corresponds with the Sahara of Africa, situated exactly at the opposite extremity of the long chain of solitudes which stretches right across the Old World.

The mirage, the moving sand-hills blown up into eddies, and many other phenomena described by African travelers, are found in certain districts of the Cobi, just the same as in all other deserts. But the cold here is exceptionally

intense, on account of the great height of the land, which is on an average 4,950 feet, and the nearness of the plains of Siberia, which are crossed by the polar wind. It freezes nearly every night and often during the day. The dryness of the atmosphere is extreme; there is hardly any vegetation, and a few grassy hollows are the only oases of these regions.

CXLVI.—HOT SPRINGS AND GEYSERS.

Many countries, once burning with volcanoes, now exhibit numerous hot and steaming springs, gushing forth from the depths of the mountains. Some of the most striking examples of these are found in California, in a lateral gorge of the valley of Napa.

The ravine of Infernillo, which is situated at the base of the volcano of San Vincente, in the center of the Republic of San Salvador, presents phenomena similar to those of California. There, too, a multitude of streams of boiling water gush from the soil, which is calcined like a brick, and eddies of vapor spring from the fissures of the rock with a noise like the shrill whistle of a locomotive. The most considerable body of water issues from a fissure thirty-two feet in width, which opens under a bed of volcanic rocks at a slight elevation above the bottom of the valley. The liquid stream, partially hidden by the clouds of vapor which rise from it, is shot out to a distance of 130 feet, as if by a force-pump, and the whistling of the water pent up between the rocks reminds one of the furnace of a manufactory at full work.

In Iceland, California, New Zealand, and several other

volcanic regions of the world, jets of steam, mingled with boiling water, are so considerable as to rank among the most astonishing phenomena of the planet. The most celebrated, and certainly the most beautiful, of all these springs, is the Great Geyser of Iceland. Seen from afar, light vapors, creeping over the low plain at the foot of the mountain of Blafel, point out the situation of the jet of water and of the neighboring springs.

It has been admirably described by Lord Dufferin in his account of a visit to Iceland, and an exploration of its natural curiosities:—We found ourselves, he says, in the presence of the steaming geysers. I do not know that I can give you a better notion of the place than by saying that it looked as if—for about a quarter of a mile—the ground had been honeycombed by disease into numerous sores and orifices: not a blade of grass grew on its hot, inflamed surface, which consisted of unwholesome-looking red, livid gray, or crumpled shreds and shards of slough-like incrustations.

Naturally enough, our first impulse on dismounting was to scamper off at once to the Great Geyser. As it lay at the furthest end of the congeries of hot springs, in order to reach it we had to run the gauntlet of all the pools of boiling water and scalding quagmires of soft clay that intervened, and consequently arrived on the spot with our ankles nicely poulticed. But the occasion justified our eagerness. A smooth, silicious basin, seventy-two feet in diameter, and four feet deep, with a hole at the bottom, as in a washing-basin on board a steamer, stood before us, brimful of water, just upon the simmer; while up into the air above our heads rose a great column of vapor, looking as if it was going to turn into the Fisherman's Genii.

The ground about the brim was composed of layers of incrusted silica, like the outside of an oyster, sloping gently down on all sides from the edge of the basin. We kept watch, continues Lord Dufferin, for three days over the

geyser in expectation of the eruption. On the morning of the fourth day a cry from the guides made us start to our feet, and with one common impulse, rush toward the basin. The usual subterranean thunders had already commenced. A violent agitation was disturbing the center of the pool.

Suddenly a dome of water lifted itself up to the height of eight or ten feet, then burst and fell; immediately after which a shining liquid column, or rather a sheaf of columns, wreathed in robes of vapor, sprung into the air, and in a succession of jerking leaps, each higher than the last, flung their silver crests against the sky. For a few minutes the fountain held its own, then all at once appeared to lose its ascending energy.

The unstable waters faltered—drooped—fell, "like a broken purpose, back upon themselves," and were immediately sucked down into the recesses of their pipe.

The spectacle was certainly magnificent; but no description can give any idea of its most striking features. The enormous wealth of water, its vitality, its hidden power—the illimitable breath of sunlit vapor, rolling out in exhaustless profusion—all combined to make one feel the stupendous energy of Nature's slightest movements. And yet, says Lord Dufferin, in conclusion, I do not believe the exhibition was so fine as some that have been seen.

CXLVII.—VALLEYS, PASSES, AND RAVINES.

That depression of the earth's surface, which occurs between two mountains, hills, or neighboring plateaux, we call a valley. In form and origin these depressions present

a remarkable variety. The valleys are very narrow, and closely resemble actual gaps of the soil, if the mountains which enclose them approach one another very nearly. When they are separated by a wide interval, the valleys expand until they form plains.

If we consider their origin, we shall divide them into "valleys of subsidence," "valleys of upheaval," "valleys of separation," and "valleys of denudation." The former are produced by earthquakes; that is, by the great oscillations which in former ages convulsed the earth. Therein we see continued, with a gentle incline, the strata forming the lateral elevations.

"Valleys of upheaval" have originated in the sudden dislocation of two or more layers of rock—a dislocation generally due to the action of an earthquake.

"Valleys of separation" may also be formed by the loss or wearing away of a bed of earth formerly superimposed on other beds. This kind of valley is caused by the action of glaciers or by surface waste.

"Valleys of denudation" exhibit the latter phenomenon on a larger scale. They owe their origin to the destructive action of the waters, which have laid bare the lower strata of the soil by carrying away the upper.

If we turn our glance toward an island or the shores of a continent, we observe that, starting from the sea, the ground rises gradually up to a certain height, which forms the water-shed or summit-line; and that from this summit it begins to decline, thus exhibiting two opposite slopes. Each general slope subdivides into numerous secondary slopes, formed by the transversal branches which project from the summit-line, and terminate at uncertain distances. The line following the bottom of the valley is the route or channel of the waters which spring from the principal summit, and descend toward the sea or toward the plain. It almost always becomes the bed of a river. The high valleys often present, at their origin, a number of small secondary

valleys, whose flanks have a very gentle slope, and which are frequently called *vales*.

In mountain chains, the starting-point of two opposite branches is generally marked by a sinking of the crest, and the origin of two opposite valleys is indicated by a depression. A valley is frequently formed by a projecting angle of one of the two branches which serve as its enclosing rampart, in such wise that there remains but a narrow passage through which the traveler can penetrate; such a passage is named a Pass or Defile. The aboriginal inhabitants of every country establish themselves at the outset in the low, sheltered, and fertile valleys; hence, the *cols* or *passes* which provided them with an access to the outer world have sometimes received the name of "Gates of the Nations."

Let us mention, for example, the Porta Vestphalica, which the river Weser traverses; the Gates of the Caucasus; the Pass of Issus, near the Syrian Gates, in the Taurus chain, rendered famous by the victory of Alexander the Great over Darius Codomanus; the Thermopylæ (or the "Hot Gates,") immortalized by the heroic devotion of Leonidas and his Three Hundred.

In the United States there exist some remarkable examples in the abrupt openings through which the Hudson has forced the mountain barriers. Some of the "gates" in the Andes have a depth of 5,000 feet.

The defile of the Dariel, or "Gates of the Caucasus," is thus described by Blanchard, who traversed it in 1857, on his route from Tiflis to Stavropol: "Of all the mountain passes which I have explored, this is the most imposing. Figure to yourself two immense walls of rock rising perpendicularly and nearly to the limit of eternal snows, and at their foot a torrent, foaming and furious, interrupted in its course by immense boulders detached from the neighboring mountain; a road sometimes scarcely ten feet wide, a width which has often been attained only by making it

bound, in the form of a semi-vault, over the rocks of the perpendicular wall—such is the picture. The pen cannot convey any idea of the savage grandeur which this passage exhibits; this impregnable Thermopylæ, whose master is also master of the military road penetrating from Europe into Asia."

Gorges and ravines are numerous enough in countries abounding with hills and table-lands; they invariably lead to the most open valleys. In traveling along the ridge which overhangs them, we frequently arrive upon their very brink before discovering them. Their origin is generally due to the destructive action of a violent torrent, or to crevasses produced by a sudden fracture or convulsion of the soil. Ravines are formed by torrents hollowing out for themselves a channel in the mountain side. The Pyrenees, the Alps, and especially the Andes, are furrowed in every direction by profound ravines. The loftier the mountains, the more considerable are these erosions. The Spaniards call the Andean ravines *quebradas* (or "fractures").

The basins of great rivers are also spoken of as valleys: as the valley of the Ganges, the valley of the Rhine, the valley of the Thames. At some points, these valleys expand into plains; at others they narrow into defiles. A remarkable example is offered by the Nile, which flows for leagues through wide, open, and level plains, to contract at Assouan between walls of savage cliff. In mountainous countries, the river valleys exhibit every variety of wild and romantic scenery; in level countries they are more remarkable for fertility than grandeur or picturesqueness. Of the former, we may name as striking instances the valley of the Aar, in Switzerland; the valley of the Tay, in Scotland; the valley of the Danube, in Austria; the valley of the Indus, in Asia; of the St. Lawrence, in North America. Of the latter, the following examples will readily suggest themselves: the valley of the Thames in England; those of the Mississippi and Ohio in the United States.

CXLVIII.—LAKES AND PONDS.

Collections of water—ponds, pools, lakes, or inland seas—are formed in every depression of the ground which receives a larger quantity of liquid, either from rivers or directly from the clouds, than it can get rid of through its affluents, or transfer to the atmosphere in the form of vapor. Hence arises that infinite variety of sheets of water which gives so much grace or grandeur to landscapes, and exercises such a considerable influence on the action of rivers, on climates, on the productions of the soil, and consequently on the development of mankind.

The liquid mass contained in any basin on the surface of the earth does not increase to an indefinite extent, even when considerable quantities of water are constantly being poured into it by its tributaries. Either the basin completely fills up, and the overflow is emptied out through the lowest depression in its rim, or the sheet, gradually enlarging in area, ultimately presents a surface sufficiently extensive for evaporation to establish an equipoise to the supply of water.

Perfect equality between the mass of water received and that which escapes does not, however, exist in any lake, and consequently the level never ceases to fluctuate; sometimes it rises and sometimes it sinks, according to the various seasons and years. After heavy falls of rain, or at the time of the melting of the snow, some pools are changed into perfect lakes, in the same way as, during long periods of drought, some lacustrine basins entirely dry up.

The upheavals and sinkings of the ground, the growth of mountain ridges, the encroachments or retirements of the shores of continents, the alternations of the winds and

rains, landslips, and the rupture of natural dikes—all have the effect of either giving rise to and increasing, or of doing away with or diminishing, the masses of water which are collected in the interior of continents. Like every thing else which exists on the surface of the globe, lakes have their periods of increase and decrease, and even within the limited period during which man has begun to record the annals of his planet, numbers of fresh lakes have made their appearance whilst many others have entirely dried up or have considerably diminished in extent.

In mountainous regions it is a well-known fact that the fall of rocks and the advance of glaciers have often caused the formation of considerable lakes. In like manner, some large lakes have appeared since the Middle Ages, owing to the cutting down of the trees upon the dunes, and the shifting of the latter toward the east. On the other hand, instances of lakes which have disappeared owing to natural causes, without being subjected to any human labor in the process of their exhaustion, are likewise very numerous.

Thus the plain of Oisans, in the Alps of Dauphiné having been suddenly closed up in 1811 by a downfall of rocks, the waters of the rivers accumulated above the obstacle, and spread out into a lake of six and a half miles in length. Villages, vast plains, and whole forests were swallowed up under a liquid sheet of an average depth of thirty-three feet, and the local employment gradually became that of fishing. The lake existed for thirty-eight years, and then the barrier suddenly yielded under the pressure of the water, and the body of liquid rushed like a deluge over Grenoble and all the towns and plains below. At the commencement of the fourteenth century, the former lake, which had received the name of the Lake of Saint Laurent, was completely dried up.

Lakes are not only distinguished from each other by their shape and the depth of their basin, they also vary in the appearance of their water; and even in this respect the

diversity of the matters held in suspension or solution in the liquid mass is not always sufficient to explain the remarkable contrast presented by adjacent sheets of water. The color and transparency of the liquid differ astonishingly in most mountain lakes.

Some are of an emerald green, others of a sapphire blue, a few even have a milky shade. There are some, indeed, the water of which is transparent, that have a brown or yellowish color. In every case, whatever may be the natural hue of each of these lakes, they incessantly vary on account of the reflection of the rays of the sun, the clouds, or the color of the sky, and the refraction of the light. One lake, the water of which, not far from the bank, is of a yellowish green, owing to the rocky bottom just visible below the undulations of the surface, is of a deep blue above the invisible abysses of its central portion. Another lake presents a well-defined difference of color between the tranquil water of its basin and that which is brought in by the rapid current of the water which crosses it.

In other places, again, the eddies light up the surface with reflections of a bronzed or greenish hue; even the particles of sand or ooze, as well as the chemical substances in the water, must necessarily, however infinitesimal their tenuity may be, tinge the liquid sheet with various shades. Vegetable mold gives to lakes a color more or less shaded with red or brown; clay gives them a yellowish tinge. The rocks and pebbles, according to Tyndall, are the agents which confer on the Lake of Geneva and other mountain lakes their lovely azure color. The most wonderfully transparent water, which, too, is the most devoid of all impurity, is in general a sea-green hue. It is said that objects are sometimes visible in it at a depth of 80 and even 100 feet.

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